HITACHI
SERVICE MANUAL

TY | **No. 248 EGF** 323

J-2 (**FT-J2** / **HA-J2**) — for W. Germany, France, U.K., Australia, Switzerland & Sweden

CONTENTS

SPECIFICATIONS 1
DISASSEMBLY 4
DIAL CORD STRINGING 6
ADJUSTMENT 6
CIRCUIT DIAGRAM 13, 16
PRINTED WIRING BOARD 14, 17
BLOCK DIAGRAM 18
REPLACEMENT PARTS LIST 20
KEY TO ILLUSTRATIONS 25

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers.
   Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS

FT-J2 (FM/MW/LW STEREO TUNER)

GENERAL SPECIFICATIONS

Semi-conductors	IC's: 7 Transistors: 21 FETs : 2 LED's: 8 Diodes: 9
Dimensions	74 (H) × 230 (W) × 198 (D) mm
Weight	1.8 kg

TUNER SECTION

Circuit system	FM/MW/LW 3 band superheterodyne
Frequency range	FM: 87.5 — 108 MHz MW: 531 — 1,602 kHz LW: 150 — 350 kHz
Sensitivity	FM: 1.9 μV (S/N 26 dB 400 Hz, 40 kHz Dev.) MW: 500 μV/m (S/N 20 dB, 400 Hz 30% mod.) LW: 1 mV/m (S/N 20 dB, 400 Hz 30% mod.)
FM capture ratio	2 dB (1 mV, 40 kHz Dev.)
FM selectivity	60 dB (±300 kHz)
FM Harmonic distortion	0.3/0.6% (1 mV, 1,000 Hz, MONO/STEREO)*
FM stereo separation	40 dB*
FM Pilot suppression	35/50 dB (19 kHz/38 kHz)*
AM suppression	40 dB (1 mV, FM 40 kHz Dev., AM30% mod.)*
Image rejection	45 dB
Intermediate frequency	FM: 10.7 MHz MW/LW: 468 kHz
Antennas (Aerials)	FM: External antenna (aerial) 300 ohms/75 ohms MW/LW: Loop antenna (arerial) or External antenna (aerial)
FM frequency response	20 Hz — 15 kHz (±1.5 dB)*
S/N (Signal to Noise Ratio)	FM mono: 65 dB* FM stereo: 60 dB* MW/LW: 50 dB*

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

STEREO TUNER/STEREO AMPLIFIER

March 1981 TOYOKAWA WORKS

HITACHI J2 (FT-J2, HA-J2)

HA-J2 (STEREO AMPLIFIER)

GENERAL SPECIFICATION

Semi-conductors	IC's: 4 Transistors: 4 LED's: 11 Diodes: 1
Power supply	AC 100 – 120 V/200 – 240 V, 50/60 Hz (for W. Germany) AC 220 V, 50 Hz (except U.K., Australia and W. Germany) AC 240 V, 50 Hz (for U.K. and Australia)
Power consumption	160 W
Dimensions	74 (H) × 230 (W) × 219 (D) mm
Weight	3.6 kg

AMPLIFIER SECTION

Power output	One channel driven: 30 W × 2 (4 ohms THD 0.3% 1 kHz) 25 W × 2 (8 ohms THD 0.3% 1 kHz) Both channel driven: 25 W × 2 (4 ohms THD 0.3% 1 kHz) RMS/SINUS 21 W × 2 (8 ohms THD 0.3% 1 kHz) RMS/SINUS 45 W × 2 (4 ohms THD 0.3% 1 kHz) Music power 30 W × 2 (8 ohms THD 0.3% 1 kHz) Music power
Frequency response	20 Hz – 20 kHz (± 1.5 dB)
Harmonic distortion	0.05% (at 1/2 rated output 1 kHz)
Damping factor	25
Intermodulation	0.5%
Signal to Noise ratio	80dB (IHF-A, AUX)
Channel separation	50 dB (at 1,000 Hz)
Tone control	Bass: ±7 dB (at 50 Hz) Treble: ±12 dB (at 10 kHz)
Balance control	0 – 100%
Input sensitivity/ impedance	Tape play: 400 mV, 9 kohms PHONO: 3 mV, 47 kohms AUX: 150 mV, 47 kohms Microphone: 0.5 mV, 10 kohms
Output level/impedance	Speaker: 4 ohms/8 ohms Headphone: 8–400 ohms

* According to DIN 45 500

SICHERHEITSMASSNAHMEN

Bei Wartungsarbeiten sind die folgenden Sicherheitsmaßnahmen zu beachten:

1. Da verschiedene Teile dieses Gerätes Sicherheitsfunktionen aufweisen, nur Original-Hitachi-Ersatzteile verwenden. Kritische Teile im Netzteil sollten nicht durch ähnliche Teile anderer Hersteller ersetzt werden. Alle kritischen Teile sind im Schaltplan und im Diagramm der Schaltplatten mit dem Symbo ⚠ gekennzeichnet.
2. Vor der Auslieferung eines reparierten Gerätes an den Kunden muß der Wartungstechniker das Gerät einer gründlichen Prüfung unterziehen, um sicherzustellen, daß sicherer Betrieb ohne die Gefahr von elektrischen Schlägen gewährleistet ist.

TECHNISCHE DATEN

FT-J2 (UKW/MW/LW-STEREOTUNER)

ALLGEMEINE DATEN

Bestückung	7 ICs 21 Transistoren 2 FETs 8 LEDs 9 Dioden
Abmessungen	74 (H) × 230 (B) × 198 (T)mm
Gewicht	1,8 kg

EMPFANGSTEIL

Empfängerprinzip	Superheterodyne-Empfänger für UKW, MW und LW
Empfangsbereich	UKW: 87,5 MHz – 108 MHz MW: 531 kHz – 1 602 kHz LW: 150 kHz – 350 kHz
Empfindlichkeit	UKW: 1,9 μV (400 Hz, 40 kHz Hub und 26 dB Signal-Fremdspannungs-abstand) MW: 500 μV/m (400 Hz, 30% Modulation und 20 dB Signal-Fremdspannungsabstand) LW: 1 mV/m (400 Hz, 30% Modulation und 20 dB Signal-Fremdspannungsabstand)
UKW-Gleichwellen-selektion	2 dB (1 mV, 40 kHz Hub)
UKW-Selektivität	60 dB (±300 kHz)
UKW-Klirrgrad	0,3/0,6% (1 mV, 1000Hz, MONO/STEREO)*
UKW-Übersprech-dämpfung	40 dB
UKW-Pilottonunter-drückung	35/50 dB (19 kHz/38 kHz)*
AM-Unterdrückung	40 dB (1 mV, UKW 40 kHz Hub, MW 30% Mod.)*
Spiegelwellenselektion	45 dB
Zwischenfrequenz	UKW: 10,7 MHz MW/LW: 468 kHz
Antenne	UKW: Außenantenne 300 Ohm/75 Ohm MW/LW: Ringantenne oder Außen-antenne
UKW-Frequenzgang	20 Hz – 15 kHz (±1,5 dB)*
Signal-Fremdspannungs-abstand	UKW MONO: 65 dB* UKW STEREO: 60 dB* MW/LW: 50 dB*

HA-J2 (STEREOVERSTÄRKER)

ALLGEMEINE DATEN

Bestückung	4 ICs 4 Transistoren 11 LEDs 1 Diode
Spannungsquelle	100 – 120 V/200 – 240 V, 50/60 Hz (für die BRD) 220 V, 50 Hz (außer England, Australia und BRD), 240 V, 50 Hz (für England und Australia)
Leistungsaufnahme	160 W
Abmessungen	74 (H) × 230 (B) × 219 (T) mm
Gewicht	3,6 kg

VERSTÄRKERTEIL

Ausgangsleistung	Ein Kanal ausgesteuert: 2 × 30 W (4 Ohm, Klirrgrad 0,3% bei 1 kHz) 2 × 25 W (8 Ohm, Klirrgrad 0,3% bei 1 kHz) Beide Kanäle ausgesteuert: 2 × 25 W Sinus (4 Ohm, 0,3% Klirrgrad bei 1 kHz) 2 × 21 W Sinus (8 Ohm, 0,3% Klirrgrad bei 1 kHz) 2 × 45 W Musik (4 Ohm, 0,3% Klirrgrad bei 1 kHz)

	2 × 30 W Musik (8 Ohm, 0,3% Klirrgrad bei 1 kHz)
Frequenzgang	20 Hz – 20 kHz (±1,5 dB)
Klirrgrad	0,05% (bei halber Ausgangsleistung)
Dämpfungsfaktor	25
Intermodulation	0,5%
Signal-Fremdspannungs-abstand	80 dB (AUX, IHF)
Kanaltrennung	50 dB (bei 1 kHz)
Klangregelung	Tiefen: ±7 dB (bei 100 Hz) Höhen: ± 12 dB (bei 10 kHz)
Balanceregelung	0 – 100%

Eingangsempfindlich-keit/-impedanz	Tape: 400 mV/9 kOhm PHONO: 3 mV/47 kOhm AUX: 150 mV/47 kOhm Mikrofon: 0,5 mV/10 kOhm
Ausgangspegel/ -impedanz	Lautsprecher: 4 Ohm/8 Ohm Kopfhörer: 8–400 Ohm

Änderungen der technischen Daten und Teile für Verbesserung vorbehalten.

* Nach DIN 45 500

PRÉCAUTIONS DE SÉCURITÉ

Les précautions suivantes doivent être observées chaque fois qu'une réparation doit être faite.

1. Etant donné que de nombreux composants de l'appareil possèdent des caractéristiques relatives à la sécurité, utiliser uniquement des pièces de rechange d'origine Hitachi pour effectuer un remplacement. Ceci se rapporte notamment aux pièces critiques du bloc d'alimentation qui ne doivent en aucun cas être remplacées par celles d'autres fabricants. Les pièces critiques sont accompagnées du symbole ⚠ dans le schéma de montage et sur le schéma de plaque de câblage.
2. Avant de retourner l'appareil réparé au client, le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

CARACTÉRISTIQUES TECHNIQUES

FT-J2 (TUNER STÉRÉO FM/PO/GO)

CARACTÉRISTIQUES GÉNÉRALES

Semi-conducteurs	CI: 7 Transistors: 21 Transistors FET: 2 Diodes LED: 8 Diodes: 9
Dimensions	74 (H) × 230 (L) × 198 (P) mm
Poids	1,8 kg

TUNER

Circuit	Superhétérodyne 3 bandes FM/PO/GO
Plage de fréquence	FM: 87,5 – 108 MHz PO: 531 – 1 602 kHz GO: 150 – 350 kHz
Sensibilité	FM: 1,9 μV (S/B 26 dB, 400 Hz Dév. 40 kHz) PO: 500 μV/m (S/B 20 dB, 400 Hz, mod. 30%) GO: 1 μV/m (S/B 20 dB, 400 Hz, mod. 30%)
Taux de capture FM	2 dB (1 mV, dév. 40 kHz)
Sélectivité FM	60 dB (±300 kHz)
Distorsion harmonique FM	0,3 – 0,6% (1 mV, 1 000 Hz, MONO/STEREO)*
Séparation FM stéréo	40 dB
Suppression fréq. pilote FM	35/50 dB (19 kHz/38 kHz)*
Suppression AM	40 dB (1 mV, FM dév. 40 kHz, mod. 30% AM)*
Rejet d'image	45 dB
Fréquence intermédiaire	FM: 10,7 MHz PO/GO: 468 kHz
Antennes	FM: Antenne extérieure 300 ohms/75 ohms PO/GO: Antenne cadre ou antenne extérieure
Réponse de fréquence FM	20 Hz – 15 kHz (±1,5 dB)*
Rapport signal/bruit	FM mono: 65 dB* FM stéréo: 60 dB* PO/GO: 50 dB*

HA-J2 (AMPLIFICATEUR STEREO)

CARACTÉRISTIQUES GÉNÉRALES

Semi-conducteurs	CI: 4 Transistors: 4 Diodes LED: 11 Diode: 1
Alimentation électrique	CA: 100 – 120/200 – 240 V, 50/60 Hz (pour Allemagne fédérale) CA: 220 V, 50 Hz (Sauf pour Royaum-Uni, Australie et Allemagne fédérale) CA: 240 V, 50 Hz (pour Royaume-Uni et l'Australie)
Consommation électrique	160 W
Dimensions	74 (H) × 230 (L) × 219 (P) mm
Poids	3,6 kg

AMPLIFICATEUR

Puissance de sortie	Un canal en service: 30 × 2 (4 ohms DHT 0,3% 1 kHz) 25 × 2 (8 ohms DHT 0,3% 1 kHz) Les deux canaux en service: 25 W × 2 (4 ohms DHT 0,3% 1 kHz) RMS sinus 21 W × 2 (8 ohms DHT 0,3% 1 kHz) RMS sinus 45 W × 2 (4 ohms DHT 0,3% 1 kHz) Puissance musicale 30 W × 2 (8 ohms DHT 0,3% 1 kHz) Puissance musicale
Réponse de fréquence	20 Hz – 20 kHz (±1,5 dB)
Distorsion harmonique	0,05% (à 1/2 puissance nominale)
Facteur d'amortissement	25
Intermodulation	0,5%
Rapport signal/bruit	80 dB (AUX, IHF-A)
Séparation des canaux	50 dB (à 1 000 Hz)
Commande de tonalité	Grave: ±7 dB (à 100 Hz) Aigu: ±12 dB (à 10 kHz)
Commande d'équilibrage	0 – 100%
	Lecture de bande: 400 mV, 9 kohms
Sensibilité/impédance d'entrée	PHONO: 3 mV, 47 kohms AUX: 150 mV, 47 kohms Microphone: 0,5 mV, 10 kohms
Niveau/impédance de sortie	Haut-parleur: 4 ohms/8 ohms Casque d'écoute: 8–400 ohms

Les caractéristiques technique et les composants peuvent être modifiés pour amélioration.

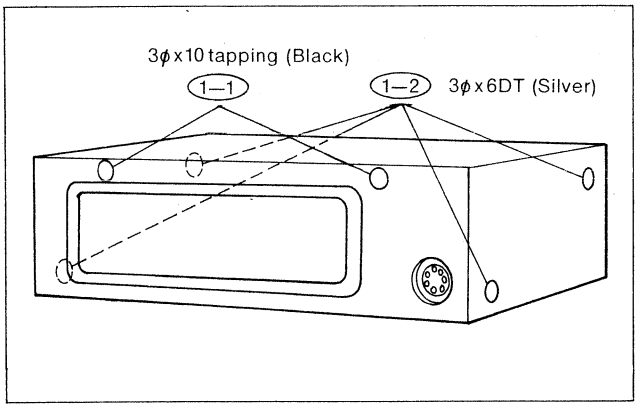
* Conformément à DIN 45 500

DISASSEMBLY • AUSBAUANWEISUNG • DÉMONTAGE

FT-J2 (Stereo tuner) FT-J2 (Stereotuner) FT-J2 (Tuner stéréo)

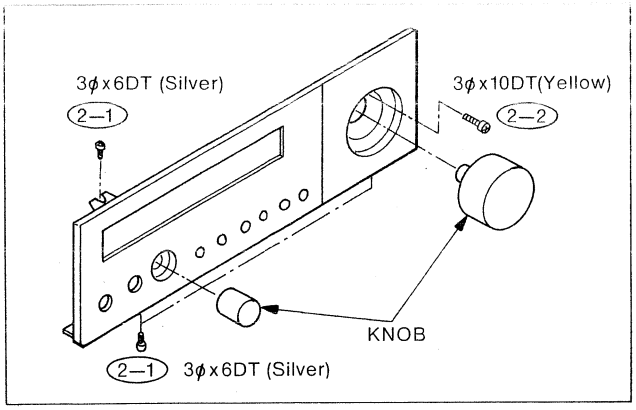
1. Top case 1. Obere Abdeckung
1. Couvercle supérieur

1) [1−1] 2 screws
2) [1−2] 4 screws



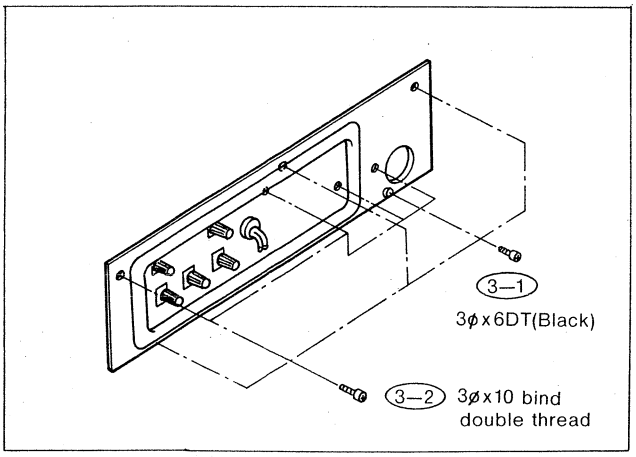
2. Front panel 2. Frontplatte 2. Panneau avant

1) Remove the top case (See item 1)
2) 2 Knobs
3) [2−1] 3 screws
4) [2−2] 1 screw



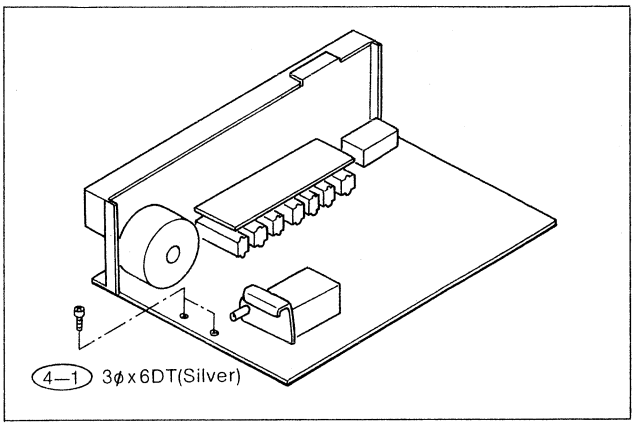
3. Back cover 3. Hintere Abdeckung
3. Couvercle arrière

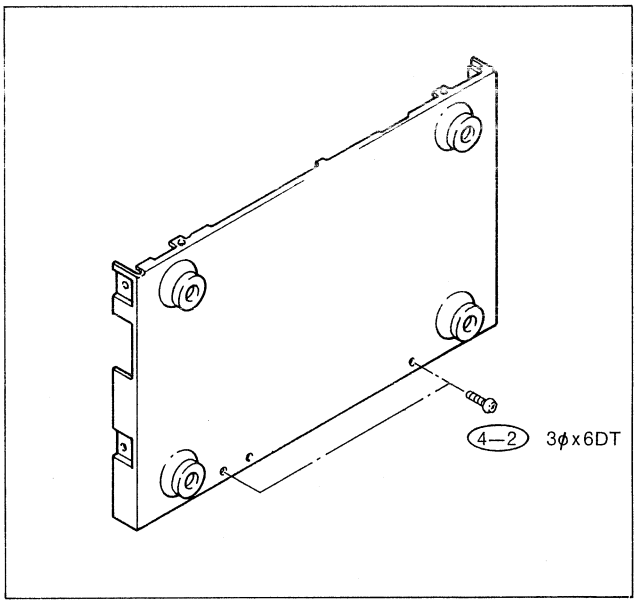
1) Remove the top case (See item 1)
2) [3−1] 4 screws
3) [3−2] 4 screws



4. Bottom cover 4. Untere Abdeckung
4. Couvercle inférieur

1) Remove the back cover (See item 3)
2) [4−1] 2 screws
3) [4−2] 2 screws

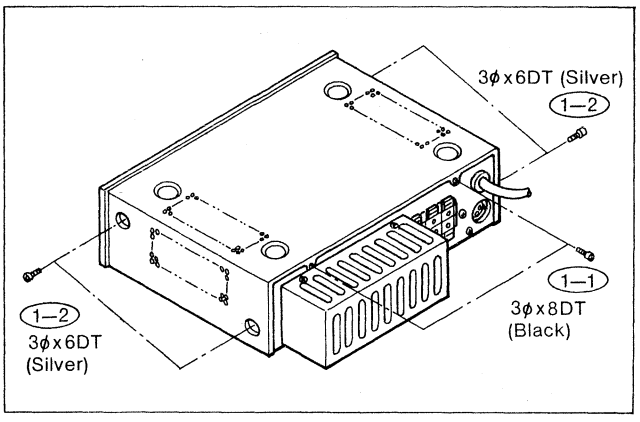




HA-J2 (Stereo amplifier) (Stereo-Verstärker) (Amplificateur stereo)

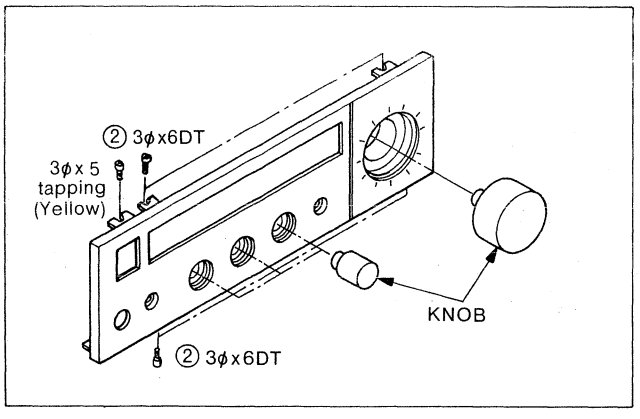
1. Top case 1. Obere Abdeckung
1. Couvercle supérieur

1) [1—1] 2 screws
2) [1—2] 4 screws



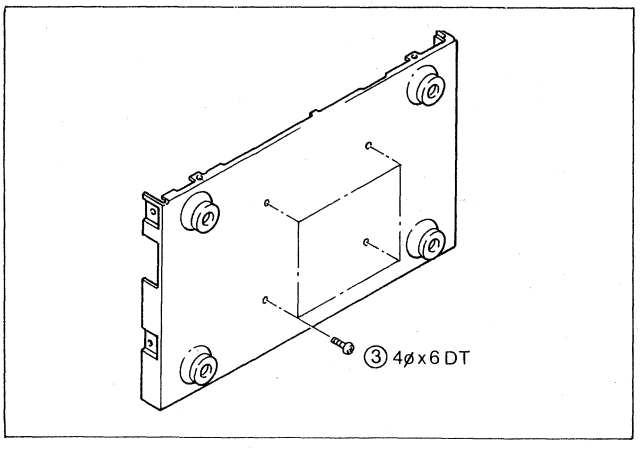
2. Front panel 2. Frontplatte 2. Panneau avant

1) Remove the top case (See item 1)
2) 4 Knobs
3) ② screws



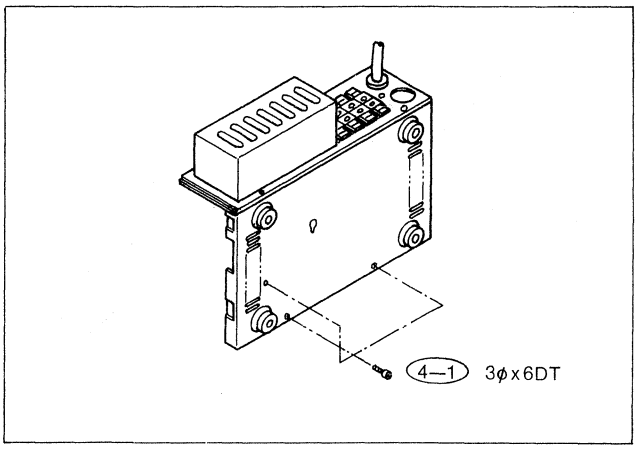
3. Power transformer 3. Netztransformator
3. Transformateur de puissance

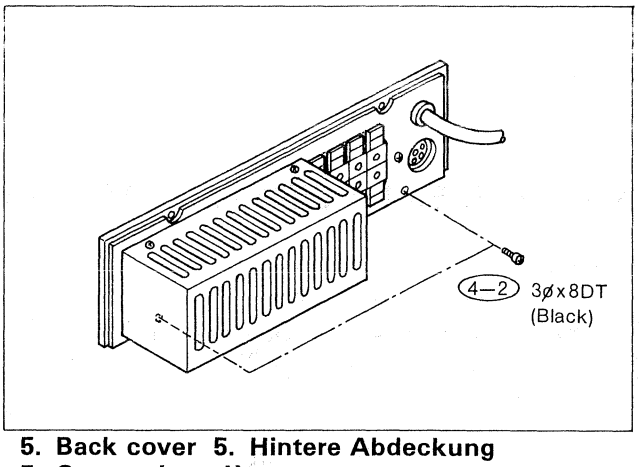
1) Remove the top case (See item 1)
2) ③ 4 screws



4. Bottom cover 4. Untere Abdeckung
4. Couvercle inférieur

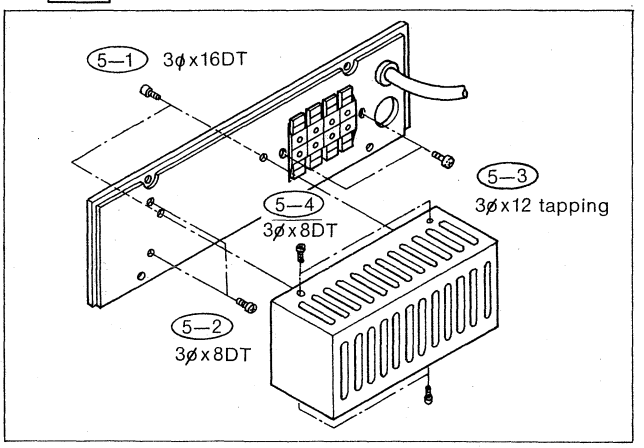
1) Remove the top case (See item 1)
2) [4—1] 3 screws
3) [4—2] 2 screws
4) ③ 4 screws (To see item 3)





5. Back cover 5. Hintere Abdeckung
5. Couvercle arrière

1) Remove the bottom cover (See item 4)
2) [5—1] 2 screws
3) [5—2] 2 screws
4) [5—3] 2 screws
5) [5—4] 4 screws

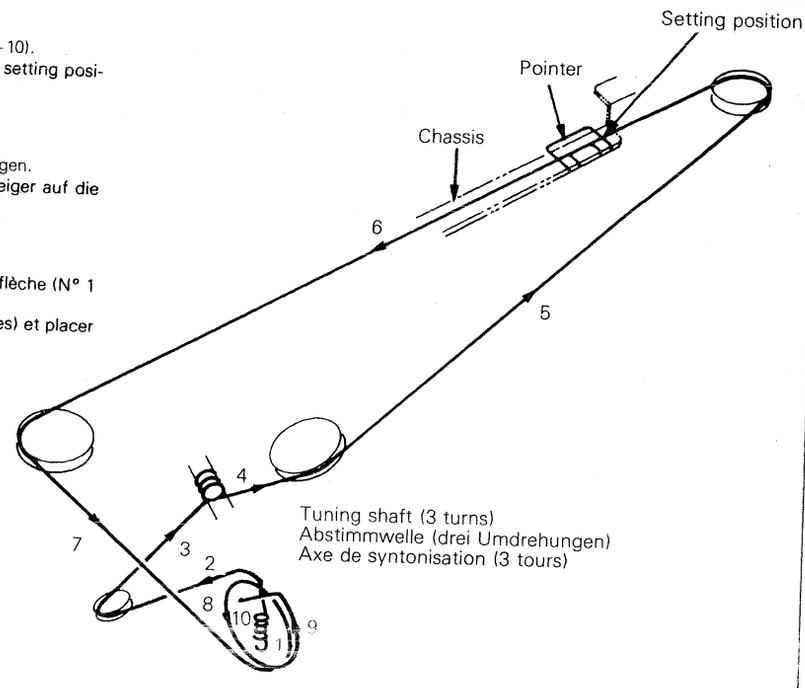


DIAL CORD STRINGING • FÜHRUNG DES ABSTIMMSEILZUGS • CHEMINEMENT DU CORDON D'ACCORD

STRINGING METHOD
1. Turn the pulley fully counterclockwise.
2. String the dial cord in the direction of arrow (No. 1–10).
3. Turn the pulley fully clockwise and set the pointer to setting position.

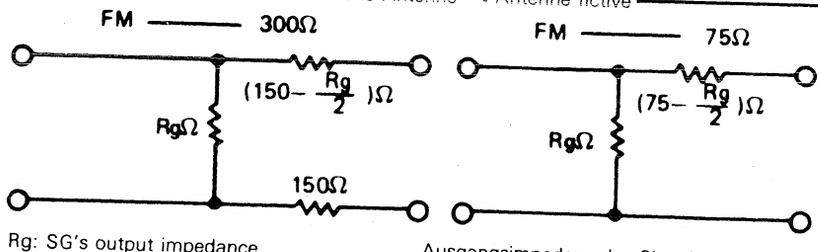
EINLEGEN DES SEILZUGS
1. Das Antriebsrad nach links drehen.
2. Den Abstimmseilzug in Pfeilrichtung (Nr. 1–10) einlegen.
3. Das Antriebsrad ganz nach rechts drehen und den Zeiger auf die Abstimmposition einstellen.

MÉTHODE DE CHEMINEMENT DU CORDON
1. Tourner la poulie à fond vers la gauche.
2. Faire passer le cordon d'accord dans la direction de la flèche (N° 1 à –10).
3. Tourner la poulie à fond vers la droite (sens des aiguilles) et placer l'aiguille à la position de réglage.



ADJUSTMENT • EINSTELLUNGEN • RÉGLAGE

Dummy antenna (aerial) • Künstliche Antenne • Antenne fictive



Rg: SG's output impedance

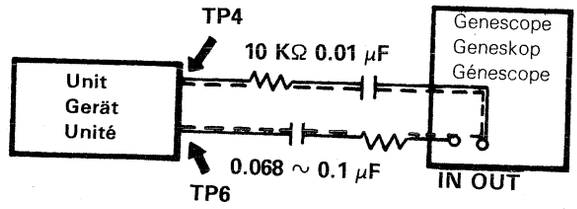
Ausgangsimpedanz des Signalgenerators

1. FM IF adjustment
Setting:
- FM band switch: ON
- Mono/stereo switch: MONO

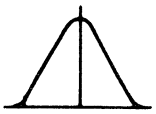
1. Einstellung der UKW-ZF
Einstellung:
- UKW-Wellenbereichsschalter: ON
- Stereoschalter: MONO

1. Réglage Fréq. int. FM
Position:
- Interrupteur de gamme FM: ON
- Sélecteur Mono/Stéréo: MONO

Connection • Anschlußverbindungen • Connexion



Adjustment • Einstellung • Réglage

Genescope Geneskop Génescope	Dial pointer position Abstimm-nadel-stellung Position d'aiguille de cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
10.7 MHz	Highest Höchste Einstellung La plus haute	T201, T203	–	Turn the T201 and T203 fully counterclockwise. T201 und T203 ganz nach rechts drehen. Tourner le T201 et T203 à fond dans le sens inverge des aiguilles d'une montre.
		T103	Maximum  fc	1) fc: Specified centre frequency of the ceramic filter. 2) Reduce the level of the genescope to make one waveform. 1) fc: Die Nennspitzenfrequenz des Keramikfilters. 2) Den Pegel des Geneskops verringern, bis eine Wellenform erscheint. 1) fc: Fréquence centrale spécifiée du filtre céramique. 2) Réduire le niveau du génescope pour obtenir une forme d'onde.
		T201, T203	Straight line Gerade Linie Ligne droite 	Adjust T201 and T203 for a symmetrical sinewave (S curve) output and a straight line of the S curve. T201 und T203 so einstellen, daß eine symmetrische Sinuskurve und eine gerade linie au der sinuskurve abgelesen werden kann. Ajuster T201 et T203 pour obtenir une sortie d'onde sinusoïdale (Courbe S) symétrique, et une ligne droite sur la courbes.

2. FM Distortion and RF (Covering and Tracking) adjustment
Setting:

- FM band switch: ON
- Mono/stereo switch: MONO

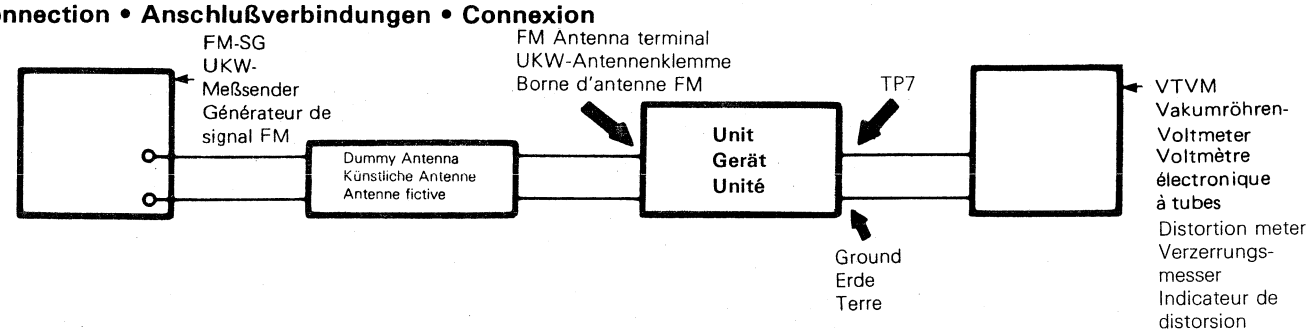
2. UKW-Verzerrung, HF-Einstellung
Einstellung:

- UKW-Wellenbereichsschalter: ON
- Stereoschalter: MONO

2. Distorsion FM et réglage de RF en FM (Couverture et alignement)
Position:

- Interrupteur de gamme FM: enclenché
- Commutateur Mono/Stéréo: MONO

Connection • Anschlußverbindungen • Connexion



Distortion Adjustment • Verzerrungseinstellung • Réglage de distorsion

Signal Generator Signalgenerator Générateur de signaux		Adjust Einstellung Réglage	Reading Ablesung Lecture
Frequency Frequenz Fréquence	Modulation Modulation Modulation		
98 MHz	1 kHz 30%	T203	Min.

FM RF UKW-HF FM/RF
Adjustment • Einstellungen • Réglage

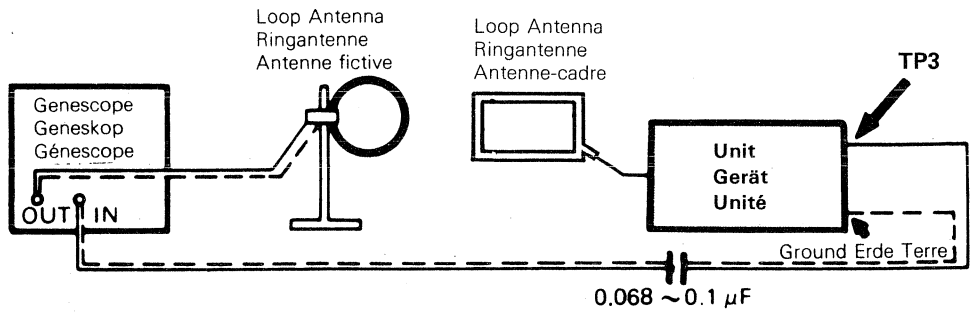
Item Tätigkeit Démarche		Signal generator Signalgenerator Générateur de signaux Frequency Frequenz Fréquence	 Modulation Modulation Modulation	Dial pointer position Abstimmnadel-stellung Position d'aiguille du cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
1	Covering Bestreichen Couverture	87.5 MHz	400 Hz 30%	Lowest Tiefster Punkt La plus basse	L102	Max.	——
2		108.0 MHz		Highest Höchster Punkt La plus haute	CT103		
3	Repeat 1 and 2 1 und 2 wiederholen Répéter 1 et 2						
4	Tracking Verfolgen Alignement	90 MHz	400 Hz 30%	90 MHz	T101, T102	Max.	
5		106 MHz		106 MHz	CT101,CT102		
6	Repeat 4 and 5. 4 und 5 wiederholen. Répéter 4 et 5.						

3. AM IF adjustment
Setting:
- AM band switch: ON

3. MW-ZF-Einstellung
Einstellung:
- MW-Wellenbereichs-schalter: ON

3. Réglage fréq. int. AM
Position:
- Interrupteur de gamme AM: ON

Connection • Anschlußverbindungen • Connexion



Adjustment • Einstellungen • Réglage

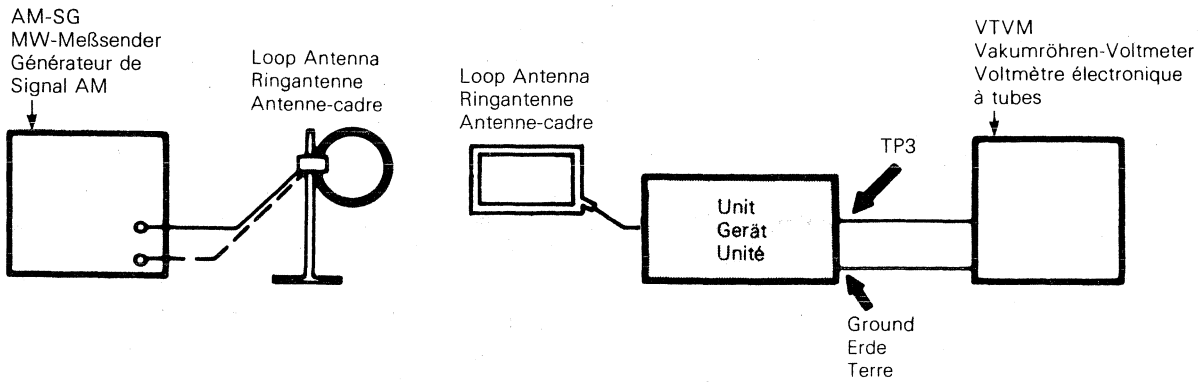
Genescope Geneskop Génescope Frequency Frequenz Fréquence	 Modulation Modulation Modulation	Dial pointer position Abstimmnadel-stellung Position d'aiguille de cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
468 kHz	——	Highest Höchster Punkt La plus haute	T153 T202	Max.	——

4. MW/LW RF (Covering and Tracking) adjustment
Setting:
- MW or LW band switch: ON

4. MW/LW-Einstellungen (Bestreichen und Verfolgen):
Einstellungen:
- MW- oder LW-Wellenbereichs-schalter: ON

4. Réglage PO/GO (MW/LW) (Couverture et alignement)
Position:
- Interrupteur de gamme PO (MW) ou GO (LW): ON

Connection • Anschlußverbindungen • Connexion



Adjustment • Einstellungen • Réglage

1) MW 1) MW 1) PO (MW)

Item Tätigkeit Démarche		Signal generator Signalgenerator Générateur de signaux Frequency Frequenz Fréquence	 Modulation Modulation Modulation	Dial pointer position Abstimmnadel-stellung Position d'aiguille du cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
1	Covering Bestreichen Couverture	515 kHz	400 Hz 30%	Lowest Tiefster Punkt La plus basse	T151	Max.	—
2		1650 kHz		Highest Höchster Punkt La plus haute	CT154		
3	Repeat 1 and 2 1 und 2 wiederholen Répéter 1 et 2						
4	Tracking Verfolgen Alignement	600 kHz	400 Hz 30%	600 kHz	L154	Max.	
5		1400 kHz		1400 kHz	CT151		
6	Repeat 4 and 5. 4 und 5 wiederholen. Répéter 4 et 5.						

2) LW 2) LW 2)GO

Item Tätigkeit Démarche		Signal generator Signalgenerator Générateur de signaux Frequency Frequenz Fréquence	 Modulation Modulation Modulation	Dial pointer position Abstimmnadel-stellung Position d'aiguille du cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
1	Covering Bestreichen Couverture	145 kHz	400 Hz 30%	Lowest Tiefster Punkt La plus basse	T152	Max.	—
2		360 kHz		Highest Höchster Punkt La plus haute	CT153		
3	Repeat 1 and 2 1 und 2 wiederholen Répéter 1 et 2						
4	Tracking Verfolgen Alignement	160 kHz	400 Hz 30%	160 kHz	L155	Max.	
5		330 kHz		330 kHz	CT152		
6	Repeat 4 and 5. 4 und 5 wiederholen. Répéter 4 et 5.						

5. FM MPX (Multiplex) adjustment
Setting:
- FM band switch: ON
- Mono/stereo switch: STEREO

5. UKW-Multiplexeinstellung
Einstellung:
- UKW-Wellenbereichsschalter: ON
- Stereoschalter: STEREO

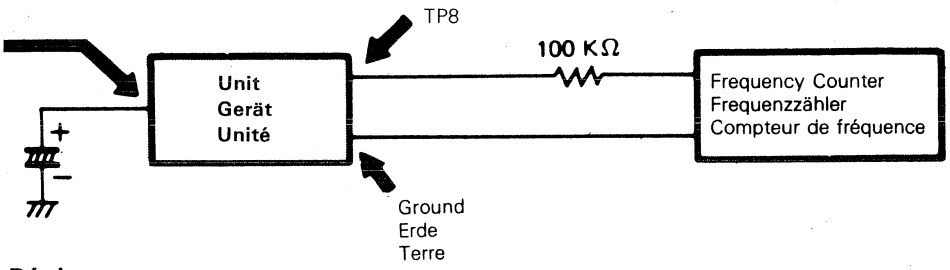
5. Réglage FM MPX (Multiplex) Position des commandes:
- Interrupteur de gamme FM: ON
- Sélecteur Mono/Stéréo: STEREO

Connection • Anschlußverbindungen • Connexion

Connect a 10 μF 25 V electrolytic capacitor between the No. 2 pin of IC301 and ground.

Den Stift 2 des IC301 über einen Elektrolytkondensator 10 μF 25 V erden.

Raccorder un capaciteur électrolytique de 10 μF 25 V entre la broche N°2 de IC301 et la terre.



Adjustment • Einstellungen • Réglage:

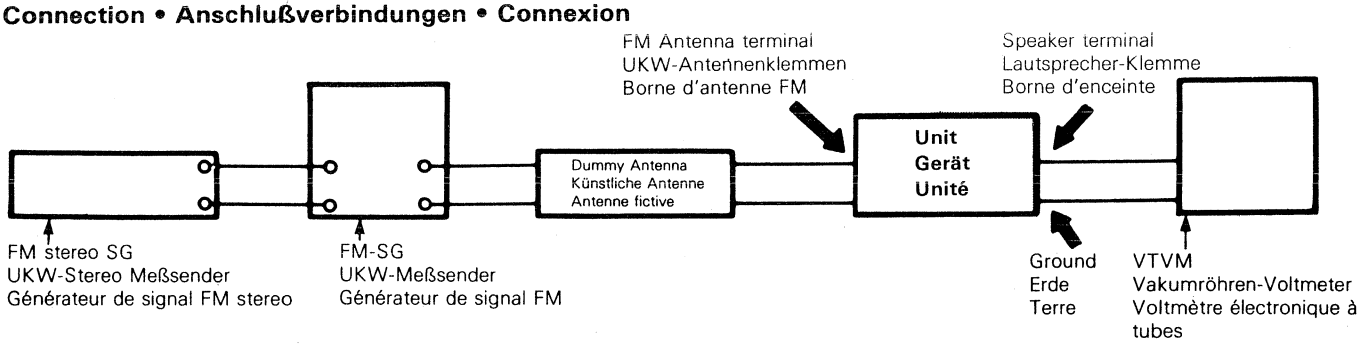
Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
RT302	19 kHz ± 100 Hz	——

6 .FM Separation adjustment
Setting:
- FM band switch: ON
- Mono/stereo switch: STEREO

6. Einstellen der UKW-Trennung
Einstellung:
- UKW-Wellenbereichsschalter: ON
- Stereoschalter: STEREO

6. Réglage de séparation FM
Position des commandes:
- Interrupteur de gamme FM: ON
- Sélecteur Mono/Stéréo: STEREO

Connection • Anschlußverbindungen • Connexion



Adjustment • Einstellungen • Réglage

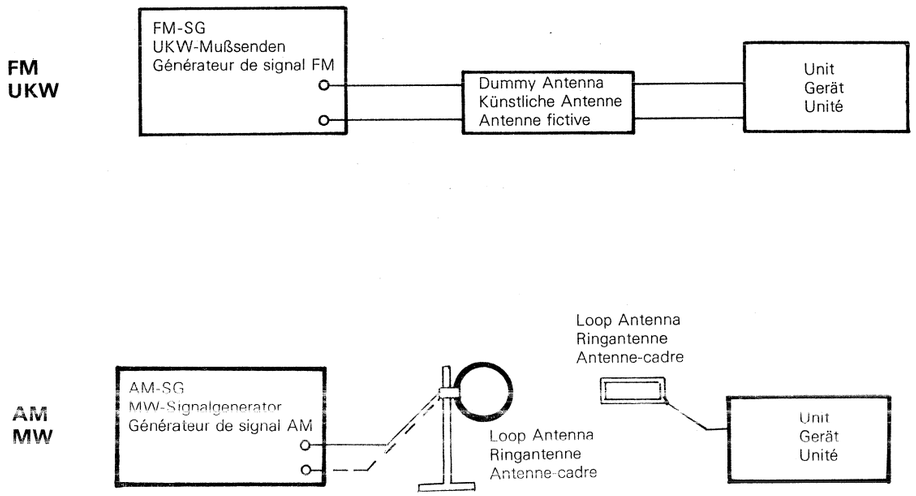
Signal generator Signalgenerator Générateur de signal		Dial pointer position Abstimmnadel-stellung Position d'aiguille de cadran	Adjust Einstellen Réglage	Reading Ablesen Lecture	Remarks Bemerkungen Remarques
Frequency Frequenz Fréquence	Modulation Modulation Modulation				
98 MHz 60 dB	L + R (1 kHz): 40 kHz dev.: Pilot (19 kHz): 6 kHz dev.	98 MHz	RT301	Min.	1) After feeding in of R channel and pilot signals, adjust RT301 for a minimum L channel output. 2) Optimize RT301 so that the leak level of the L channel signal is equal to that of the R channel signal.
	L + R (1 kHz): 40 kHz Abw.: Pilot (19 kHz): 6 kHz Abw.:				1) Nach der Zuführung des rechten Kanals und des Pilottons RT301 so einstellen, daß der linke Kanal den geringsten Ausgang aufweist. 2) RT301 so optimieren, daß der Ableitungspegel des linken Kanalsignals mit dem rechten Kanalsignal übereinstimmt.
	G + D (1 kHz): 40 kHz dev.: Pilot (19 kHz): 6 kHz dev.:				1) Après alimentation des signaux pilote et de canal droit (R), ajuster RT301 pour obtenir une sortie minimum de canal gauche (L). 2) Optimiser RT301 de sorte que le niveau de fuite du signal du canal gauche (L) soit égal à celui du signal du canal droit (R)

7. FM (AM) frequency display adjustment Setting:
- FM (MW) switch: ON

7. Einstellung der UKW-/MW-Frequenzanzeige Einstellung:
- UKW (MW)-Schalter: ON

7. Réglage d'affichage de fréquence FM (AM) Position:
- Commutateur FM (PO): ON

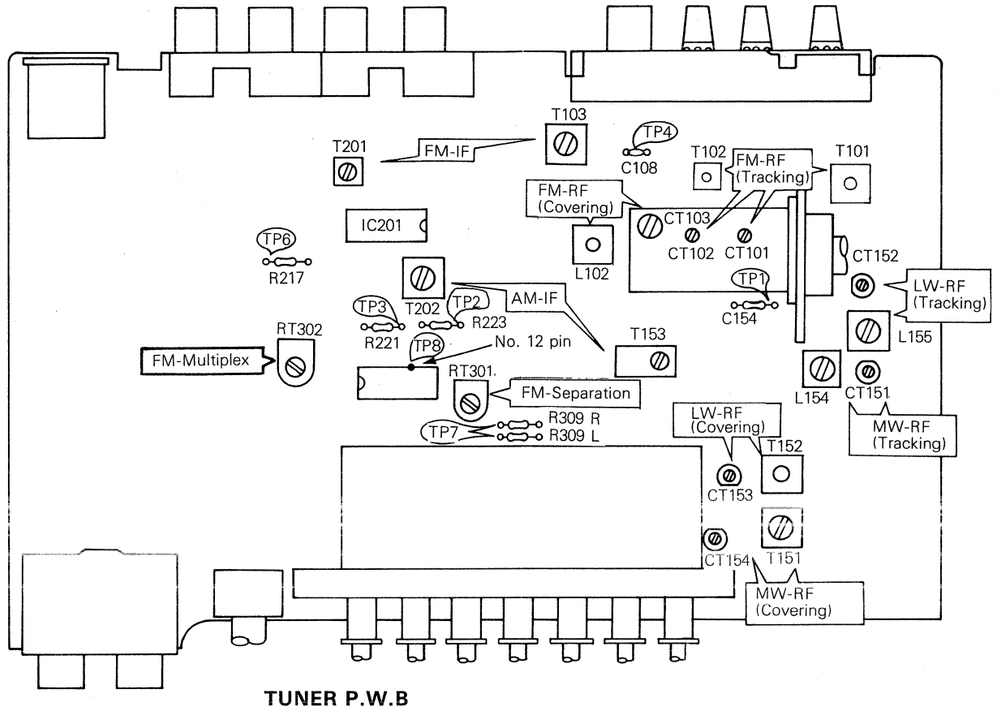
Connection • Verbindungen • Branchement:



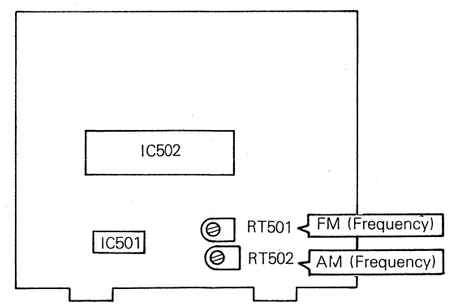
Adjustment • Einstellungen • Réglage

Item Tätigkeit Démarche		Signal generator Signalgenerator Générateur de signal		Adjust Einzustellen Réglage
		Frequency Frequenz Fréquence	Modulation Modulation Modulation	
1	FM	98 MHz	1 kHz, 40 kHz dev. 1 kHz, 40 kHz Hub 1 kHz, 40 kHz dév.	RT501
2	MW	600 kHz	400 Hz 30%	RT502

Adjustment Parts Location • Lage der justierteile • Emplacement des organes de réglage



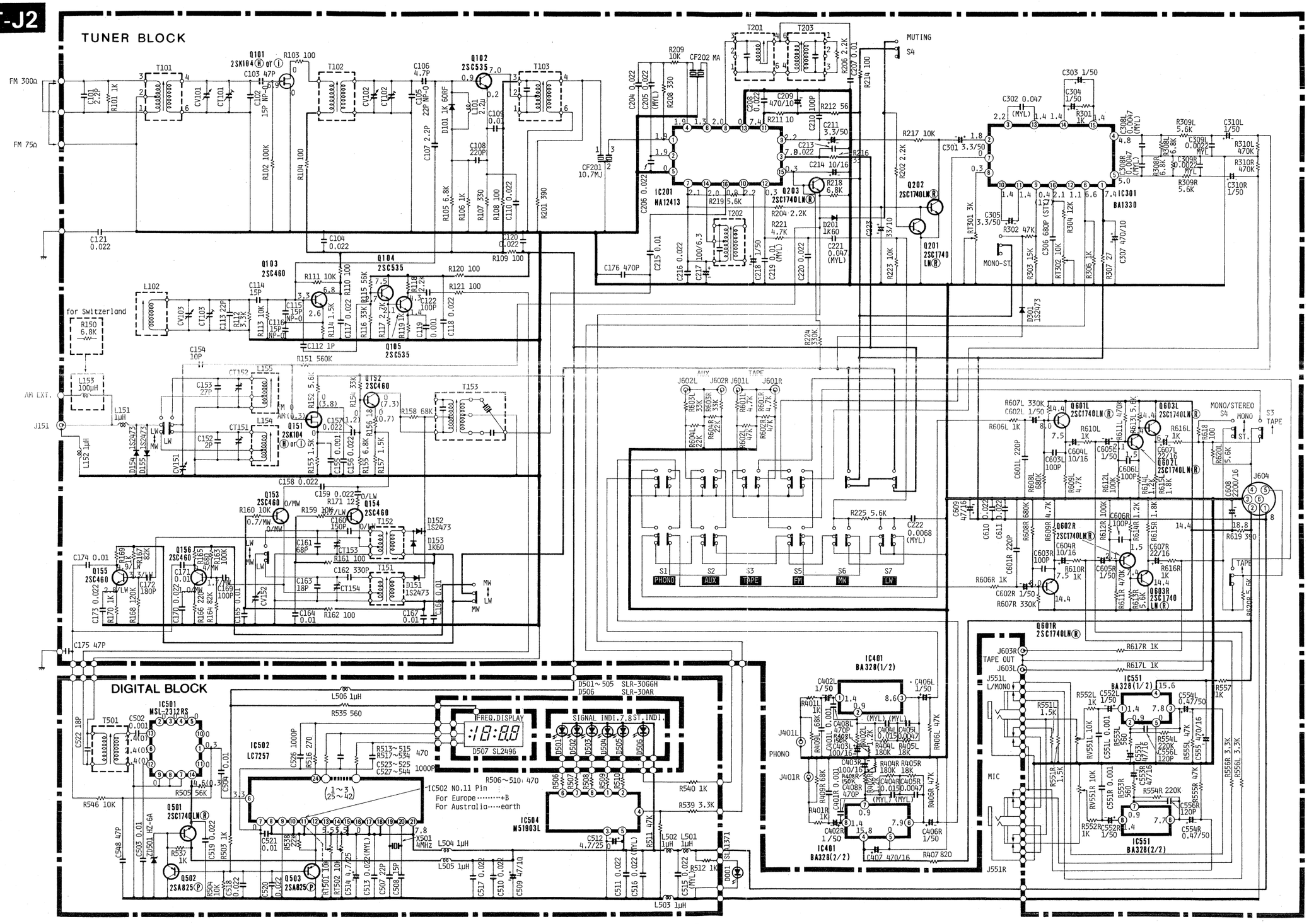
TUNER P.W.B
TUNER-LETTERPLATTE
PLAQUETTE DE CABLAGE IMPRIMÉ DU TUNER



DIGITAL P.W.B
DIGITAL-LEITERPLATTE
PLAQUETTE DE CABLAGE IMPRIMÉ NUMÉRIQUE

CIRCUIT DIAGRAM • SCHALTPLAN • SCHÉMA DE CIRCUIT

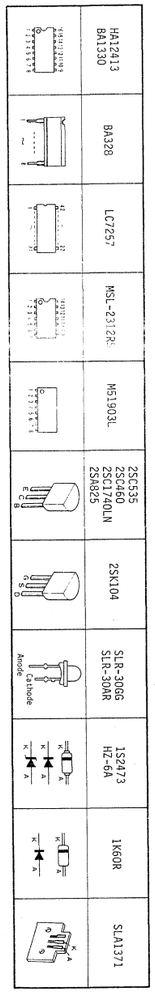
FT-J2

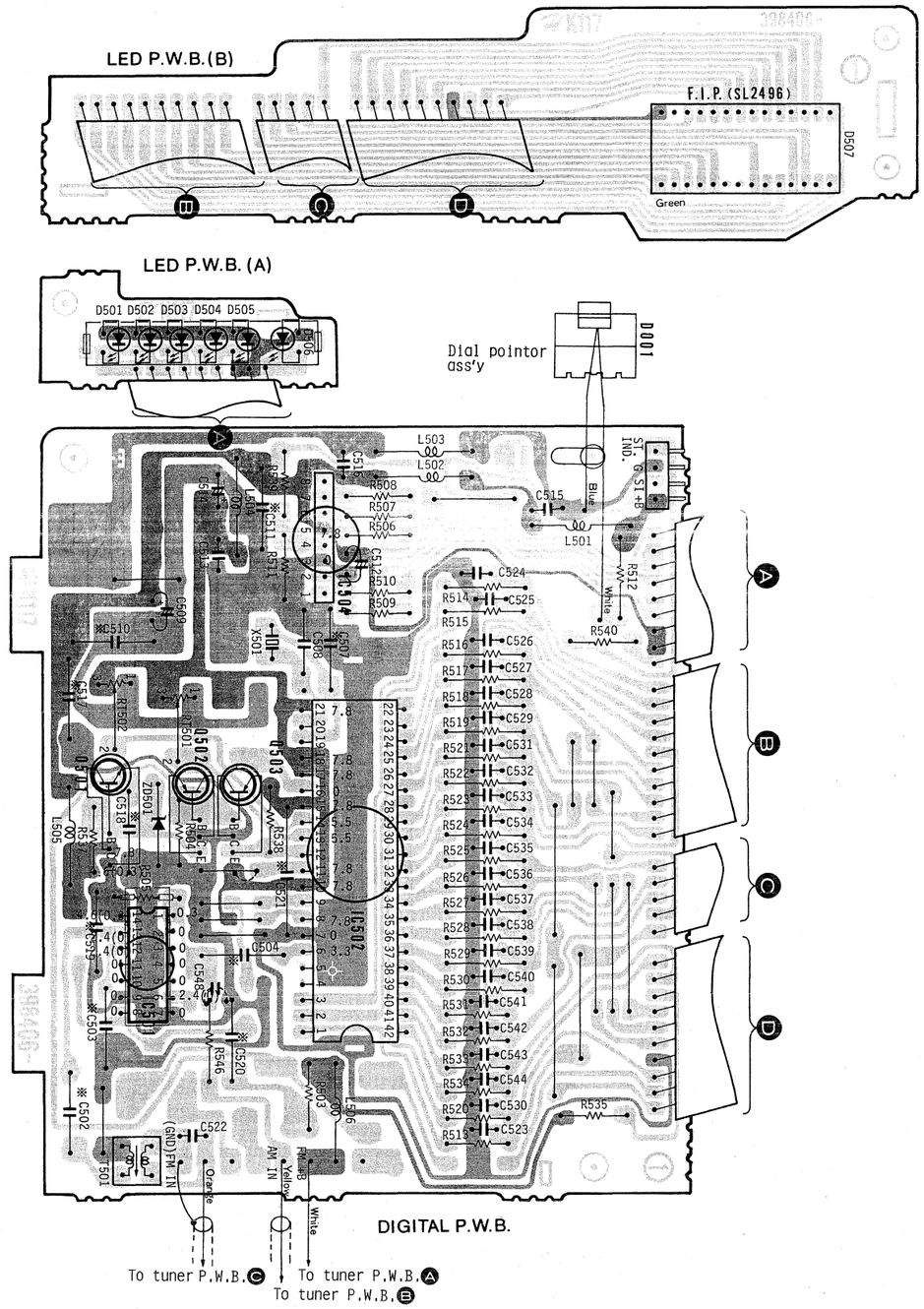


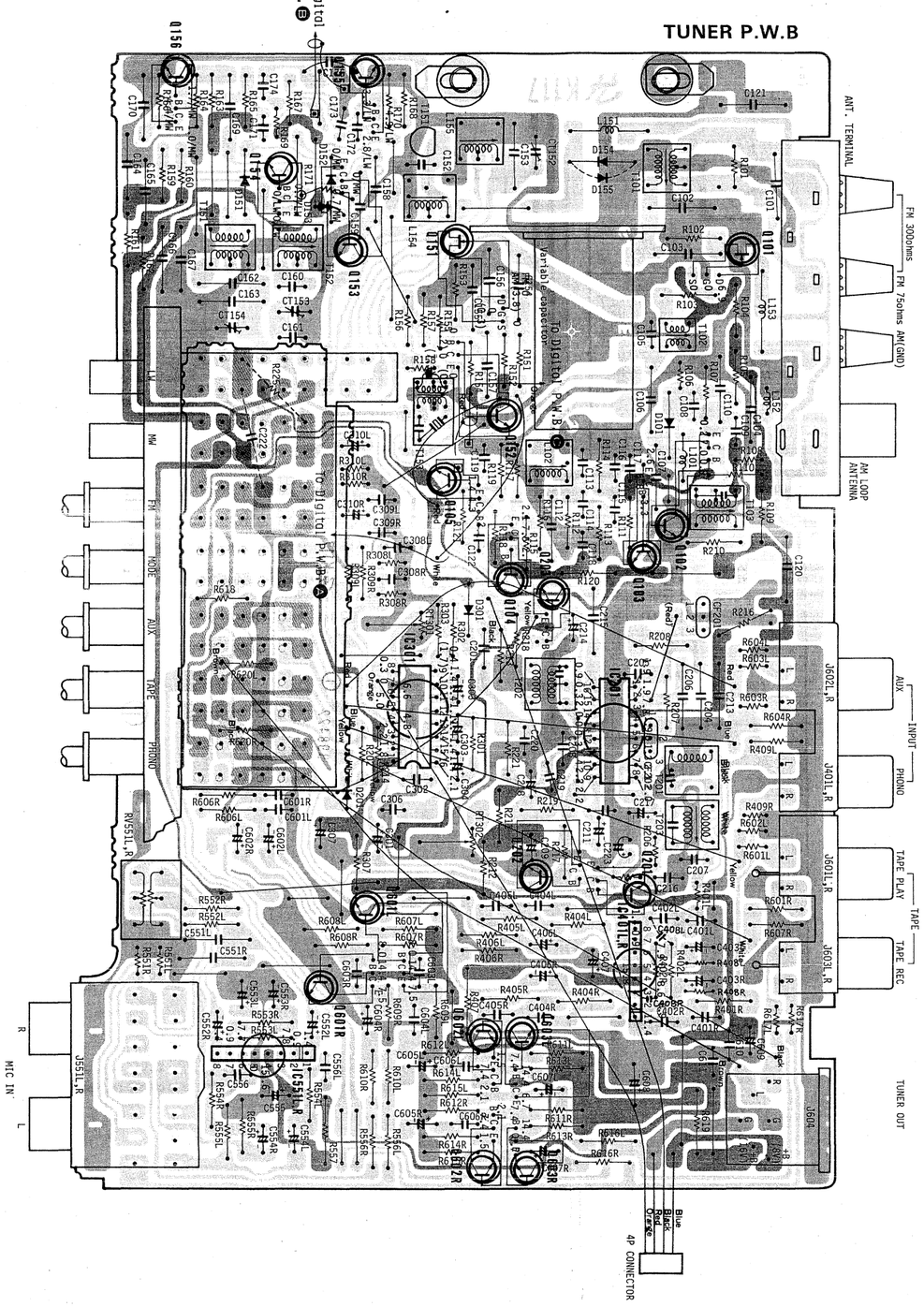
PRINTED WIRING BOARD • LEITERPLATTE • PLAQUETTE DE CÂBLAGE IMPRIMÉ

(: +B : Ground : Other : Other)

FT-J2

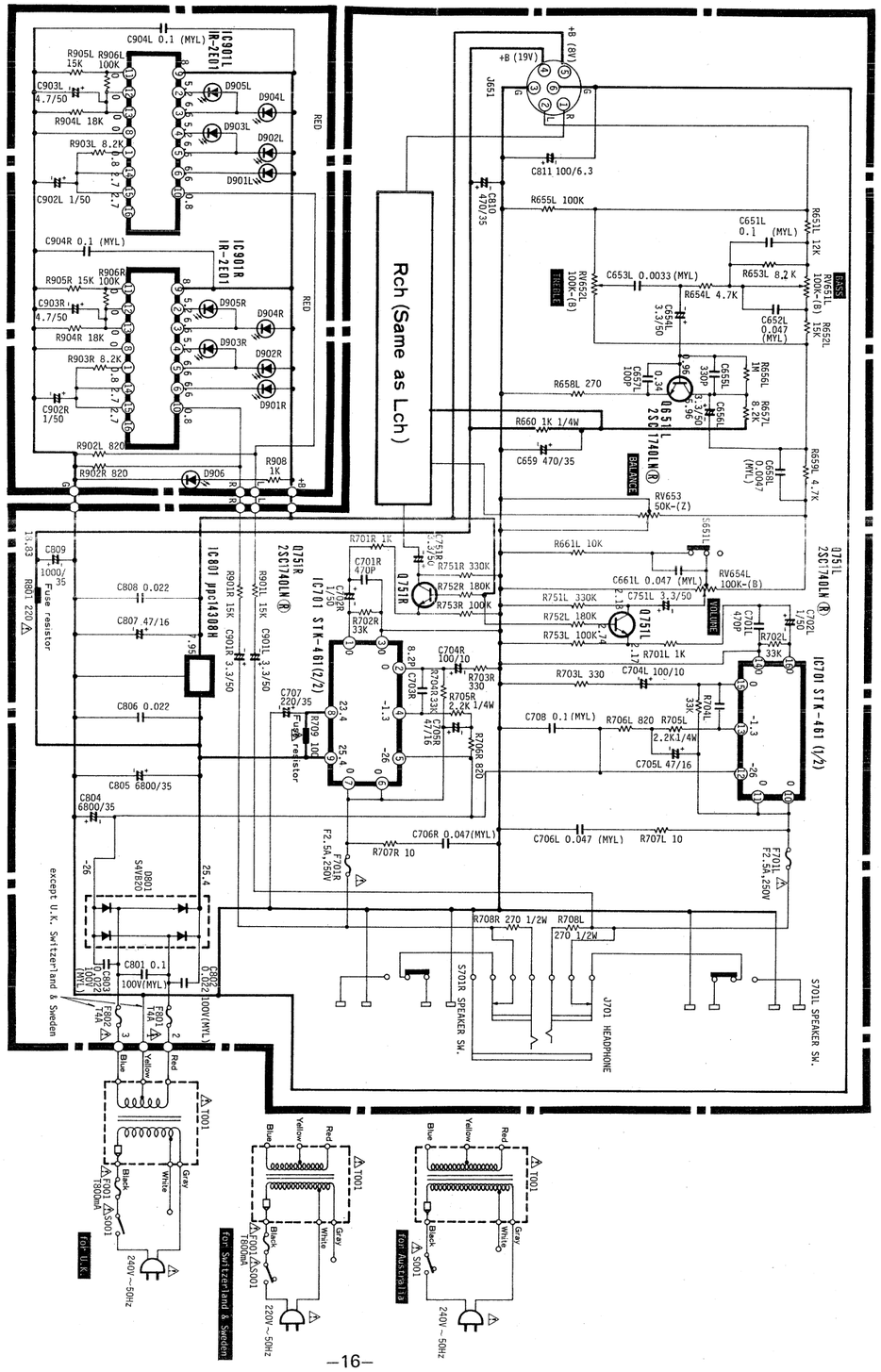






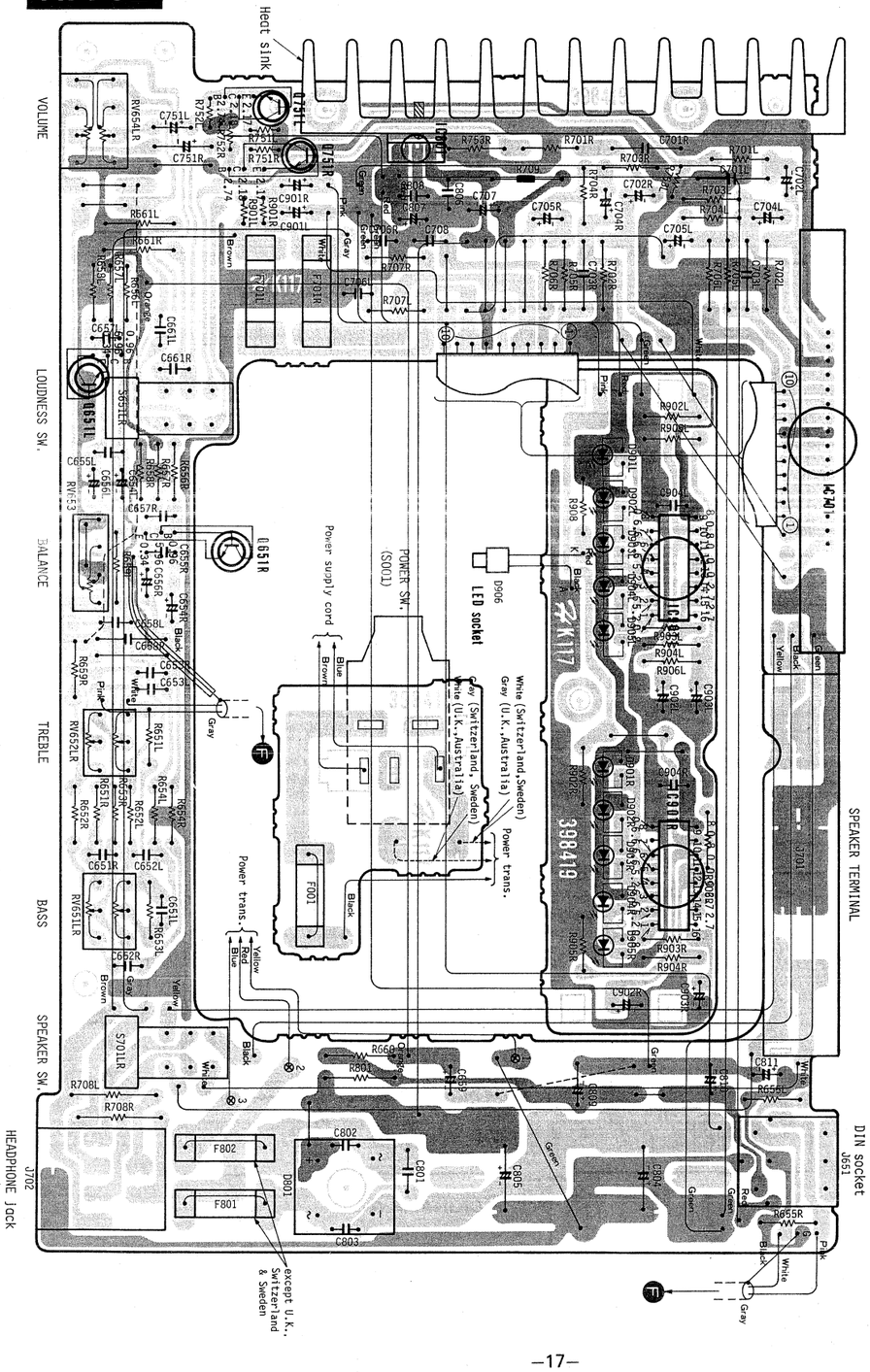
CIRCUIT DIAGRAM • SCHALTPLAN • SCHÉMA DE CIRCUIT

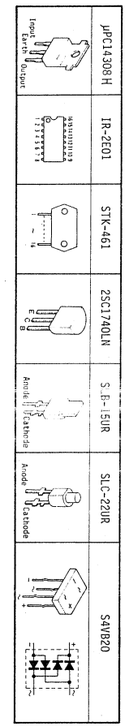
HA-J2



PRINTED WIRING BOARD • LEITERPLATTE • PLAQUETTE DE CÂBLAGE IMPRIMÉ (: +B : −B : Ground : Other)

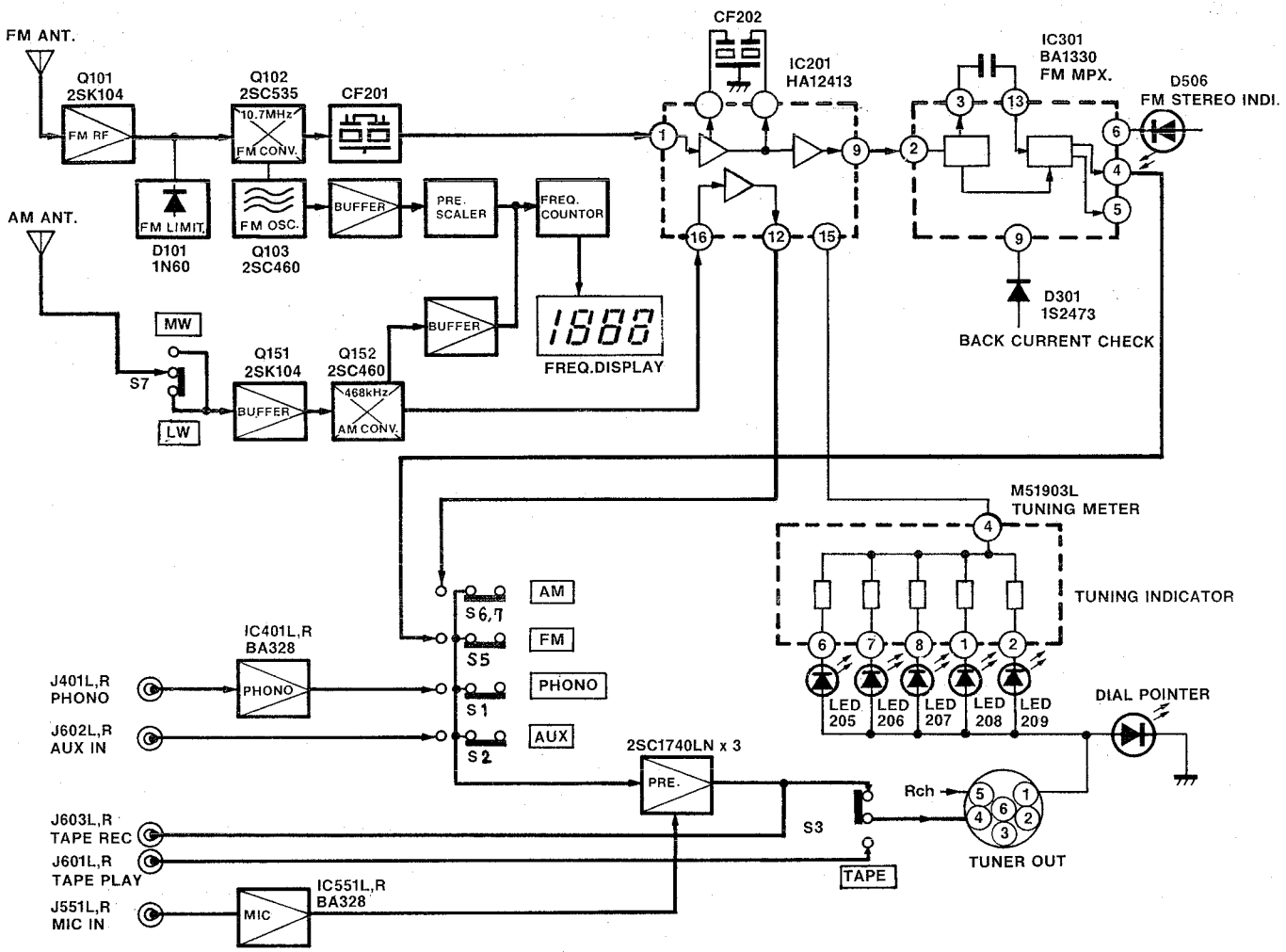
HA-J2



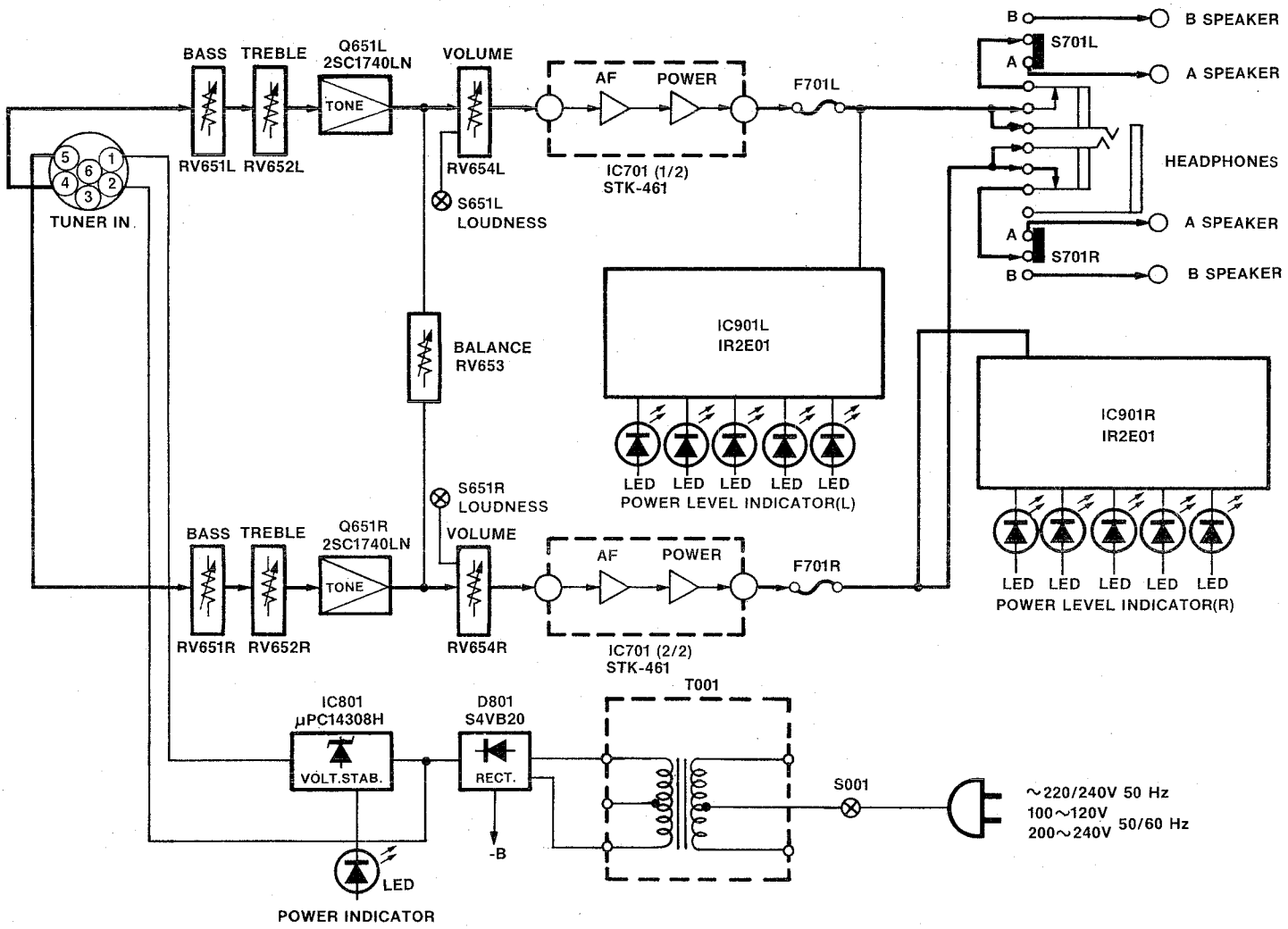


BLOCK DIAGRAM • BLOCKSCHALTBILD • SCHEMA SYNOPTIQUE

FT-J2 (STEREO TUNER) (STEREOTUNER) (TUNER STÉRÉO)



HA-J2 (STEREO AMPLIFIER) (STEREO-VERSTÄRKER) (AMPLIFICATEUR STEREO)



REPLACEMENT PARTS LIST • ERSATZTEILLISTE • LISTE DE REMPLACEMENT DES PIÈCES

SYMBOL No.	STOCK No.	DESCRIPTION		
CAPACITORS				
C101	0230004	Cylindrical ceramic	2.2pF ±10%	50V
C102	0230066	Cylindrical ceramic	15pF ±5%	50V
C103	0230028	Cylindrical ceramic	47pF ±5%	50V
C104	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C105	0246478	Cylindrical ceramic	22pF ±10%	50V
C106	0230058	Cylindrical ceramic	4.7pF ±10%	50V
C107	0230004	Cylindrical ceramic	2.2 pF ±10%	50V
C108	0248732	Ceramic, discal	220pF ±10%	50V
C109	0239427	Ceramic, discal	0.01μF ±10%	50V
C110	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C112	0230000	Cylindrical ceramic	1pF ±20%	50V
C113	0248334	Ceramic, discal	22pF ±10%	50V
C114	0246474	Ceramic, discal	15pF ±10%	50V
C115	0246474	Ceramic, discal	15pF ±10%	50V
C116	0246474	Ceramic, discal	15pF ±10%	50V
C117	0239405	Ceramic, discal	0.022μF +80% −20%	50V
C119	0239421	Ceramic, discal	1000pF ±10%	50V
C120	0240108	Cylindrical ceramic	0.022μF ±30%	50V
C121	0240108	Cylindrical ceramic	0.022μF ±30%	16 V
C122	0248724	Ceramic, discal	100pF ±10%	50V
C152	0246412	Ceramic, discal	2pF ±0.25%	50V
C153	0230022	Cylindrical ceramic	27pF ±5%	50V
C154	0230062	Cylindrical ceramic	10pF ±5%	50V
C155	0240020	Cylindrical ceramic	1000pF ±20%	50V
C156	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C157	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C158	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C159	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C160	0246468	Ceramic, discal	150pF ±5%	50V
C161	0246460	Ceramic, discal	68pF ±5%	50V
C162	0240006	Cylindrical ceramic	330pF ±10%	50V
C163	0230168	Cylindrical ceramic	18pF ±5%	50V
C164	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C165	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C166	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C167	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C169	0230036	Cylindrical ceramic	100pF ±5%	50V
C170	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C171	0245017	Ceramic, discal	0.01μF +80% −20%	25V
C172	0248690	Ceramic, discal	180pF ±5%	50V
C173	0239405	Ceramic, discal	0.022μF +80% −20%	50V
C174	0245017	Ceramic, discal	0.01μF ±10%	50V
C175	0248676	Ceramic, discal	47pF ±5%	50 V
C176	0249593	Ceramic, discal	470pF ±5%	50 V
C204	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C205	0275013	Mylar, film	0.022μF ±10%	50V
C206	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C207	0239427	Ceramic, discal	0.01μF ±10%	50V
C208	0239405	Ceramic, discal	0.022μF +80% −20%	50V
C209	0252335	Electrolytic	470μF	10V
C210	0248724	Ceramic, discal	100pF ±10%	50V
C211	0252813k	Electrolytic	3.3μF	50V
C213	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C214	0252521	Electrolytic	10μF	16V
C215	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C216	0239405	Ceramic, discal	0.022μF +80% −20%	50V

SYMBOL No.	STOCK No.	DESCRIPTION		
C217	0252231	Electrolytic	100μF	6.3V
C218	0252811	Electrolytic	1μF	50V
C219	0275011	Mylar, film	0.01μF ±10%	50V
C220	0239405	Ceramic, discal	0.022μF +80% −20%	50V
C221	0275015	Mylar, film	0.047μF ±10%	50V
C222	0274016	Mylar, film	6800pF ±10%	50V
C223	0252323	Electrolytic	3.3μF	10V
C301	0252813	Electrolytic	3.3μF	50V
C302	0275015	Mylar, film	0.047μF ±10%	50V
C303	0252811	Electrolytic	1μF	50V
C304	0252811	Electrolytic	1μF	50V
C305	0252813	Electrolytic	3.3μF	50V
C306	0221525	Styrol	680pF ±5%	50V
C307	0252335	Electrolytic	470μF	10V
C308L,R	0274015	Mylar, film	4700pF ±10%	50V
C309L,R	0274013	Mylar, film	2200pF ±10%	50V
C310L,R	0252811	Electrolytic	1μF	50V
C401L,R	0239421	Ceramic, discal	1000pF ±10%	50V
C402L,R	0252811	Electrolytic	1μF	50V
C403L,R	0252531k	Electrolytic	100μF	16V
C404L,R	0275012	Mylar, film	0.015μF ±10%	50V
C405L,R	0274015	Mylar, film	4700pF ±10%	50V
C406L,R	0252811k	Electrolytic	1μF	50V
C407	0252535	Electrolytic	470μF	16V
C408L,R	0249593	Ceramic, discal	470pF ±5%	50V
C502	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C503	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C504	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C507	0230070	Cylindrical ceramic	22pF ±5%	50V
C508	0230066	Cylindrical ceramic	15pF ±5%	50V
C509	0252325k	Electrolytic	47μF	10V
C512	0252615k	Electrolytic	4.7μF	25V
C513	0275013	Mylar, film	0.022μF ±10%	50V
C515	0275013	Mylar, film	0.022μF ±10%	50V
C516	0275013	Mylar, film	0.022μF ±10%	50V
C517	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C518	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C519	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C520	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C521	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C522	0248706	Ceramic, discal	18pF ±10%	50V
C523	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C524	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C525	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C526	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C527	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C528	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C529	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C530	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C531	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C532	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C533	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C534	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C535	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C536	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C537	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C538	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C539	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C540	0244161	Ceramic, discal	0.001μF +80% −20%	50V
C541	0244161	Ceramic, discal	0.001μF +80% −20%	50V

HITACHI J2 (FT-J2, HA-J2)

SYMBOL No.	STOCK No.	DESCRIPTION		
C542	0244161	Ceramic, discal	0.001μF +80 −20%	50V
C543	0244161	Ceramic, discal	0.001μF +80 −20%	50V
C544	0244161	Ceramic, discal	0.001μF +80 −20%	50V
C548	0248676	Ceramic, discal	47pF ±5%	50V
C551L,R	0240020	Cylindrical ceramic	1000pF ±20%	50V
C552L,R	0252811	Electrolytic	1μF	50V
C553L,R	0252525	Electrolytic	47μF	16V
C554L,R	0252805k	Electrolytic	0.47μF	50V
C555	0252535	Electrolytic	470μF	16V
C556L,R	0248686	Ceramic, discal	120pF ±5%	50V
C601L,R	0248732	Ceramic, discal	220pF ±10%	50V
C602L,R	0252811	Electrolytic	1μF	50V
C603L,R	0248724	Ceramic, discal	100pF ±10%	50V
C604L,R	0252521k	Electrolytic	10μF	16V
C605L,R	0252811	Electrolytic	1μF	50V
C606L,R	0248724	Ceramic, discal	100pF ±10%	50V
C607L,R	0252522k	Electrolytic	22μF	16V
C608	0252542k	Electrolytic	2200μF	16V
C609	0252525	Electrolytic	47μF	16V
C610	0239405	Ceramic, discal	0.022μF +80 −20%	50V
C611	0239405	Ceramic, discal	0.022μF +80 −20%	50V
C651L,R	0276311	Mylar, film	0.1μF ±10%	50V
C652L,R	0275015	Mylar, film	0.047μF ±10%	50V
C653L,R	0274014	Mylar, film	0.0033μF ±10%	50V
C654L,R	0252813k	Electrolytic	3.3μF	50V
C655L,R	0248736	Ceramic, discal	330pF ±10%	50V
C656L,R	0252813k	Electrolytic	3.3μF	50V
C657L,R	0248724	Ceramic, discal	100pF ±10%	50V
C658L,R	0274015	Mylar, film	0.0047μF ±10%	25V
C659	0252735k	Electrolytic	470μF	35V
C661L,R	0275015	Mylar, film	0.047μF ±10%	50V
C701L,R	0240008	Cylindrical ceramic	470pF ±10%	50V
C702L,R	0259823	Electrolytic	1μF	50V
C703L,R	0230011	Cylindrical ceramic	8.2pF ±10%	50V
C704L,R	0259821	Electrolytic	100μF	10V
C705L,R	0259826	Electrolytic	47μF	16V
C706L,R	0275015	Mylar, film	0.047μF ±10%	50V
C707	0259827	Electrolytic	220μF	35V
C708	0276511	Mylar, film	0.1μF ±10%	50V
C751L,R	0252813k	Electrolytic	3.3μF	50V
C801	0276511	Mylar, film	0.1μF ±10%	100V
C802	0275513	Mylar, film	0.022μF ±10%	100V
C803	0275513	Mylar, film	0.022μF ±10%	100V
C804	0259947	Electrolytic	6800μF	35V
C805	0259947	Electrolytic	6800μF	35V
C806	0244173	Ceramic, discal	0.022μF +80 −20%	50V
C807	0259826	Electrolytic	47μF	16V
C808	0244173	Ceramic, discal	0.022μF +80 −20%	50V
C809	0252741k	Electrolytic	1000μF	35V
C810	0252735k	Electrolytic	470μF	35V
C811	0252231k	Electrolytic	100μF	6.3V
C901L,R	0252813k	Electrolytic	3.3μF	50V
C902L,R	0252811k	Electrolytic	1μF	50V
C903L,R	0252815k	Electrolytic	4.7μF	50V
C904L,R	0276011	Mylar, film	0.1μF ±10%	50V
C001	0249723	Ceramic, discal	470pF ±10%	50V

SYMBOL No.	STOCK No.	DESCRIPTION		
RESISTORS				
R101	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R102	0129661	Carbon film	100kΩ ±5%	SRD1/8P
R103	0129547	Carbon film	100Ω ±5%	SRD1/8P
R104	0129561	Carbon film	100Ω ±5%	SRD1/8P
R105	0129621	Carbon film	6.8kΩ ±5%	SRD1/8P
R106	0138121	Carbon film	1kΩ ±5%	SRD1/4SD
R107	0129573	Carbon film	330Ω ±5%	SRD1/8P
R108	0138081	Carbon film	100Ω ±5%	SRD1/4SD
R109	0129561	Carbon film	100Ω ±5%	SRD1/8P
R110	0129561	Carbon film	100Ω ±5%	SRD1/8P
R111	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R112	0129613	Carbon film	3.3kΩ ±5%	SRD1/8P
R113	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R114	0129605	Carbon film	1.5kΩ ±5%	SRD1/8P
R115	0129649	Carbon film	56kΩ ±5%	SRD1/8P
R116	0129643	Carbon film	33kΩ ±5%	SRD1/8P
R117	0129611	Carbon film	2.7kΩ ±5%	SRD1/8P
R118	0129609	Carbon film	2.2kΩ ±5%	SRD1/8P
R119	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R120	0129561	Carbon film	100Ω ±5%	SRD1/8P
R121	0129561	Carbon film	100Ω ±5%	SRD1/8P
R151	0129679	Carbon film	560kΩ ±5%	SRD1/8P
R152	0129619	Carbon film	5.6kΩ ±5%	SRD1/8P
R153	0129605	Carbon film	1.5kΩ ±5%	SRD1/8P
R154	0129643	Carbon film	33kΩ ±5%	SRD1/8P
R155	0129621	Carbon film	6.8kΩ ±5%	SRD1/8P
R156	0129537	Carbon film	18Ω ±5%	SRD1/8P
R157	0129605	Carbon film	1.5kΩ ±5%	SRD1/8P
R158	0138181	Carbon film	68kΩ ±5%	SRD1/4SD
R159	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R160	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R161	0129561	Carbon film	100Ω ±5%	SRD1/8P
R162	0129561	Carbon film	100Ω ±5%	SRD1/8P
R163	0129661	Carbon film	100kΩ ±5%	SRD1/8P
R164	0129623	Carbon film	82kΩ ±5%	SRD1/8P
R165	0129581	Carbon film	680Ω ±5%	SRD1/8P
R166	0129569	Carbon film	220Ω ±5%	SRD1/8P
R167	0138183	Carbon film	82kΩ ±5%	SRD1/4SD
R168	0129663	Carbon film	120kΩ ±5%	SRD1/8P
R169	0138121	Carbon film	1kΩ ±5%	SRD1/4SD
R170	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R171	0138043	Carbon film	12Ω ±5%	SRD1/4SD
R201	0129575	Carbon film	390Ω ±5%	SRD1/8P
R202	0129609	Carbon film	2.2kΩ ±5%	SRD1/8P
R204	0138129	Carbon film	2.2kΩ ±5%	SRD1/4SD
R206	0138129	Carbon film	2.2kΩ ±5%	SRD1/4SD
R208	0129573	Carbon film	330Ω ±5%	SRD1/8P
R209	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R211	0129531	Carbon film	10Ω ±5%	SRD1/8P
R212	0129549	Carbon film	56Ω ±5%	SRD1/8P
R214	0129561	Carbon film	100Ω ±5%	SRD1/8P
R216	0129543	Carbon film	33Ω ±5%	SRD1/8P
R217	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R218	0129621	Carbon film	6.8kΩ ±5%	SRD1/8P
R219	0129619	Carbon film	5.6kΩ ±5%	SRD1/8P
R221	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R223	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R224	0129673	Carbon film	330kΩ ±5%	SRD1/8P

SYMBOL No.	STOCK No.	DESCRIPTION		
R225	0129619	Carbon film	5.6kΩ ±5%	SRD1/8P
R301	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R302	0129647	Carbon film	47kΩ ±5%	SRD1/8P
R303	0129635	Carbon film	15kΩ ±5%	SRD1/8P
R304	0129633	Carbon film	12kΩ ±5%	SRD1/8P
R307	0129541	Carbon film	27Ω ±5%	SRD1/8P
R308L,R	0138141	Carbon film	3.9kΩ ±5%	SRD1/4SD
R309L,R	0129619	Carbon film	6.8kΩ ±5%	SRD1/8P
R310L,R	0138217	Carbon film	470kΩ ±5%	SRD1/4SD
R401R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R401L	0138121	Carbon film	1kΩ ±5%	SRD1/4SD
R402L,R	0129603	Carbon film	1.2kΩ ±5%	SRD1/8P
R404L,R	0129667	Carbon film	180kΩ ±5%	SRD1/8P
R405L,R	0129637	Carbon film	18kΩ ±5%	SRD1/8P
R406L,R	0129647	Carbon film	47kΩ ±5%	SRD1/8P
R407	0114153	Carbon film	820Ω ±5%	SRD1/4P
R408L,R	0129665	Carbon film	150kΩ ±5%	SRD1/8P
R409L	0129651	Carbon film	68kΩ ±5%	SRD1/8P
R409R	0138181	Carbon film	68kΩ ±5%	SRD1/4SD
R503	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R504	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R505	0129649	Carbon film	56kΩ ±5%	SRD1/8P
R506	0129577	Carbon film	470Ω ±5%	SRD1/8P
R507	0129577	Carbon film	470Ω ±5%	SRD1/8P
R508	0129577	Carbon film	470Ω ±5%	SRD1/8P
R509	0129577	Carbon film	470Ω ±5%	SRD1/8P
R510	0129577	Carbon film	470Ω ±5%	SRD1/8P
R511	0129647	Carbon film	47kΩ ±5%	SRD1/8P
R512	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R513	0129577	Carbon film	470Ω ±5%	SRD1/8P
R514	0129577	Carbon film	470Ω ±5%	SRD1/8P
R515	0129577	Carbon film	470Ω ±5%	SRD1/8P
R516	0129571	Carbon film	270Ω ±5%	SRD1/8P
R517	0129577	Carbon film	470Ω ±5%	SRD1/8P
R518	0129577	Carbon film	470Ω ±5%	SRD1/8P
R519	0129577	Carbon film	470Ω ±5%	SRD1/8P
R520	0129577	Carbon film	470Ω ±5%	SRD1/8P
R521	0129577	Carbon film	470Ω ±5%	SRD1/8P
R522	0129577	Carbon film	470Ω ±5%	SRD1/8P
R523	0129577	Carbon film	470Ω ±5%	SRD1/8P
R524	0129577	Carbon film	470Ω ±5%	SRD1/8P
R525	0129577	Carbon film	470Ω ±5%	SRD1/8P
R526	0129577	Carbon film	470Ω ±5%	SRD1/8P
R527	0129577	Carbon film	470Ω ±5%	SRD1/8P
R528	0129577	Carbon film	470Ω ±5%	SRD1/8P
R529	0129577	Carbon film	470Ω ±5%	SRD1/8P
R530	0129577	Carbon film	470Ω ±5%	SRD1/8P
R531	0129577	Carbon film	470Ω ±5%	SRD1/8P
R532	0129577	Carbon film	470Ω ±5%	SRD1/8P
R533	0129577	Carbon film	470Ω ±5%	SRD1/8P
R534	0129577	Carbon film	470Ω ±5%	SRD1/8P
R535	0129579	Carbon film	560Ω ±5%	SRD1/8P
R537	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R538	0129639	Carbon film	22kΩ ±5%	SRD1/8P
R539	0129613	Carbon film	3.3kΩ ±5%	SRD1/8P
R540	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R542	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R546	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R551L,R	0138125	Carbon film	1.5kΩ ±5%	SRD1/4SD
R552L,R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R553L,R	0129579	Carbon film	560Ω ±5%	SRD1/8P
R554L,R	0129669	Carbon film	220kΩ ±5%	SRD1/8P
R555L,R	0129647	Carbon film	47kΩ ±5%	SRD1/8P
R556L,R	0129613	Carbon film	3.3kΩ ±5%	SRD1/8P

SYMBOL No.	STOCK No.	DESCRIPTION		
R557	0114161	Carbon film	1kΩ ±5%	SRD1/4P
R601L	0138137	Carbon film	4.7kΩ ±5%	SRD1/4SD
R601R	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R602L	0138177	Carbon film	47kΩ ±5%	SRD1/4SD
R602R	0129647	Carbon film	47kΩ ±5%	SRD1/8P
R603L,R	0138173	Carbon film	33kΩ ±5%	SRD1/4SD
R604L	0138169	Carbon film	22kΩ ±5%	SRD1/4SD
R604R	0129639	Carbon film	22kΩ ±5%	SRD1/8P
R606L,R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R607L,R	0129673	Carbon film	330kΩ ±5%	SRD1/8P
R608L,R	0129681	Carbon film	680kΩ ±5%	SRD1/8P
R609L,R	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R610L,R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R611L,R	0129677	Carbon film	470kΩ ±5%	SRD1/8P
R612L,R	0129661	Carbon film	100kΩ ±5%	SRD1/8P
R613L,R	0129619	Carbon film	5.6kΩ ±5%	SRD1/8P
R614L,R	0129603	Carbon film	1.2kΩ ±5%	SRD1/8P
R615L,R	0129607	Carbon film	1.8kΩ ±5%	SRD1/8P
R616L,R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R618	0129561	Carbon film	100Ω ±5%	SRD1/8P
R619	0114145	Carbon film	390Ω ±5%	SRD1/4P
R620L,R	0129619	Carbon film	5.6kΩ ±5%	SRD1/8P
R651L,R	0129633	Carbon film	12kΩ ±5%	SRD1/8P
R652L,R	0129635	Carbon film	15kΩ ±5%	SRD1/8P
R653L,R	0129623	Carbon film	8.2kΩ ±5%	SRD1/8P
R654L,R	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R655L,R	0129661	Carbon film	100kΩ ±5%	SRD1/8P
R656L,R	0129701	Carbon film	1MΩ ±5%	SRD1/8P
R657L,R	0129623	Carbon film	8.2kΩ ±5%	SRD1/8P
R658L,R	0129571	Carbon film	270Ω ±5%	SRD1/8P
R659L,R	0129617	Carbon film	4.7kΩ ±5%	SRD1/8P
R660	0114161	Carbon film	1kΩ ±5%	SRD1/4P
R661L,R	0129631	Carbon film	10kΩ ±5%	SRD1/8P
R701L,R	0129601	Carbon film	1kΩ ±5%	SRD1/8P
R702L,R	0129643	Carbon film	33kΩ ±5%	SRD1/8P
R703L,R	0129573	Carbon film	330Ω ±5%	SRD1/8P
R704L,R	0129643	Carbon film	33kΩ ±5%	SRD1/4P
R705L,R	0114169	Carbon film	2.2kΩ ±5%	SRD1/4P
R706L,R	0129583	Carbon film	820Ω ±5%	SRD1/8P
R707L,R	0129531	Carbon film	10Ω ±5%	SRD1/8P
R708L,R	0134366	Composition	270Ω ±10%	RC1/2GF
⚠ R709	0110621	Metal (fuse resistor)	100Ω ±5%	RN1/4B
R751L,R	0138213	Carbon film	330kΩ ±5%	SRD1/4SD
R752L,R	0138207	Carbon film	180kΩ ±5%	SRD1/4SD
R753L	0138201	Carbon film	100kΩ ±5%	SRD1/4SD
R753R	0129661	Carbon film	100kΩ ±5%	SRD1/8P
⚠ R801	0110625	Metal (fuse resistor)	220Ω ±5%	RN1/4B
R901L,R	0129635	Carbon film	15kΩ ±5%	SRD1/8P
R902L,R	0129583	Carbon film	820Ω ±5%	SRD1/8P
R903L,R	0129623	Carbon film	8.2kΩ ±5%	SRD1/8P
R904L,R	0129637	Carbon film	18kΩ ±5%	SRD1/8P
R905L,R	0129635	Carbon film	15kΩ ±5%	SRD1/8P
R906L,R	0129661	Carbon film	100kΩ ±5%	SRD1/8P
R908	0129601	Carbon film	1kΩ ±5%	SRD1/8P

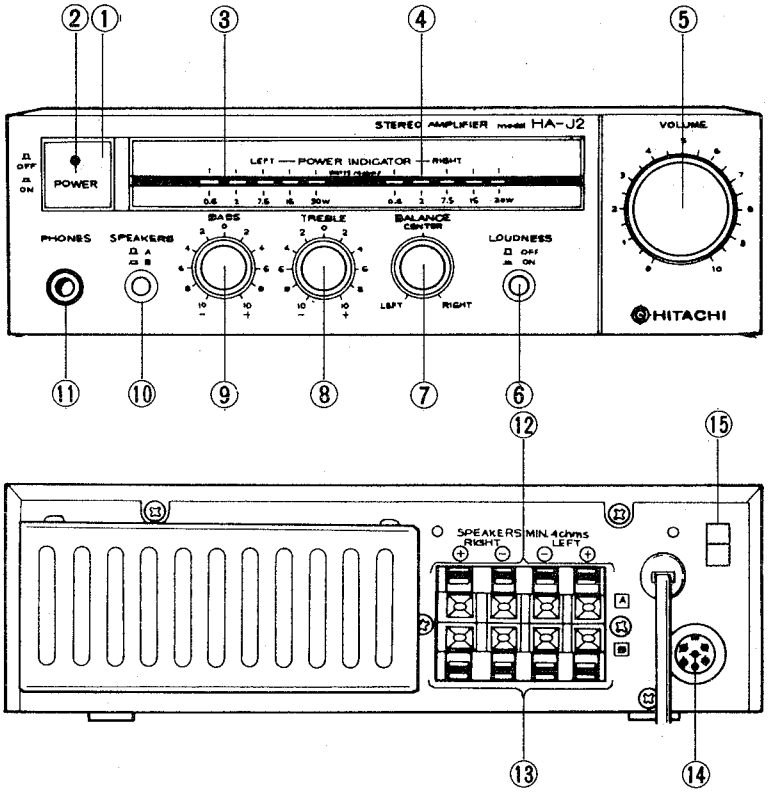
SYMBOL No.	STOCK No.	DESCRIPTION
ICs & TRANSISTORS		
IC208	2368141	HA12413
IC301	2368354	BA1330
IC201	2368141	HA12413
IC301	2368354	BA1330
IC401	2368162	BA328
IC501	2368921	MSL2312RS
IC502	2368911	LC7257
IC504	2367391	M51903L
IC551	2368162	BA328
IC701	2368031	STK-461
IC801	2368152	μPC14308H
IC901L,R	2368631	IR-2E01
Q101	2328803	2SK104 Ⓗ or Ⓘ
Q102	2329333	2SC535 Ⓒ
Q103	2329323	2SC460 Ⓒ
Q104	2329333	2SC535 Ⓒ
Q105	2329333	2SC535 Ⓒ
Q151	2328803	2SK104 Ⓗ or Ⓘ
Q152	2329323	2SC460 Ⓒ
Q153	2329323	2SC460 Ⓒ
Q154	2329323	2SC460 Ⓒ
Q155	2329323	2SC460 Ⓒ
Q156	2329323	2SC460 Ⓒ
Q201	2328651	2SC1740LN Ⓡ
Q202	2328651	2SC1740LN Ⓡ
Q203	2328651	2SC1740LN Ⓡ
Q501	2328651	2SC1740LN Ⓡ
Q502	2328641	2SA825 Ⓟ
Q503	2328641	2SA825 Ⓟ
Q504	2328641	2SA825 Ⓟ
Q505	2328641	2SA825 Ⓟ
Q601L,R	2328651	2SC1740LN Ⓡ
Q602L,R	2328651	2SC1740LN Ⓡ
Q603L,R	2328651	2SC1740LN Ⓡ
Q651L,R	2328651	2SC1740LN Ⓡ
Q751L,R	2328651	2SC1740LN Ⓡ
DIODES		
D101	2337932	1K60R
D151	2337601	1S2473
D152	2337601	1S2473
D153	2337931	1K60R
D154	2337601	1S2473
D155	2337601	1S2473
D201	2337931	1K60R
D301	2338014	1S2473
D501	2337502	LED SLR-30GGH
D502	2337502	LED SLR-30GGH
D503	2337502	LED SLR-30GGH
D504	2337502	LED SLR-30GGH
D505	2337502	LED SLR-30GGH
D506	2337411	LED SLR-30AR
D507	2338811	LED SL2496
D508	2338014	1S2473
D801	2337461	S4VB20
D901L,R	2338391	LED SLB-15UR
D902L,R	2338391	LED SLB-15UR
D903L,R	2338391	LED SLB-15UR
D904L,R	2338391	LED SLB-15UR
D905L,R	2338391	LED SLB-15UR
D906	2338411	LED SLC-22UR
D001	2338821	LED SLA-1371
ZD501	2337121	HZ-6A
VARIABLE RESISTORS		
RT301	0150956	3kΩ-(B)
RT302	0150958	10kΩ-(B)
RT501	0150958	10kΩ
RT502	0150958	10kΩ
RT503	0150958	10kΩ
RV551L,R	0152603	10kΩ-(B)
RV651L,R	0152606	100kΩ-(B) (BASS)
RV652L,R	0152606	100kΩ-(B) (TREBLE)
RV653	0152715	50kΩ-(W) (BALANCE)
RV654L,R	0152625	100kΩ-(B) (VOLUME)
COILS & TRANSFORMERS		
L101	2227394	Choke coil-2.2μH
L102	2135215	FM OSC coil
L151	2227351	Choke coil-1μH
L152	2227391	Choke coil-1μH
L153	2227353	Choke coil-100μH
L154	2135061	MW antenna coil
L155	2135064	AM RF coil
L501	2227351	Choke coil-1μH
L502	2227351	Choke coil-1μH
L503	2227351	Choke coil-1μH
L504	2227351	Choke coil-1μH
L505	2227351	Choke coil-1μH
L506	2227351	Choke coil-1μH
CT151	0283126	TZ03T110E
CT152	0283127	TZ03R200E
CT153	0283127	TZ03R200E
CT154	0283126	TZ03T110E
T101	2135238	FM antenna
T102	2135265	FM RF
T103	2154646	FM IF transformer
T151	2134431	MW OSC
T152	2135912	LW OSC
T153	2154652	AM IF transformer (except Australia)
T153	2154651	AM IF transformer (for Australia)
T201	2134861	Discri. transformer
T202	2154671	AM IF transformer
T203	2134862	Discri. transformer
T501	2135268	FM RF7

SYMBOL No.	STOCK No.	DESCRIPTION
		MISCELLANEOUS
CF201	2135325	Ceramic filter
CF202	2134982	Ceramic filter
⚠ F001	2727198	Fuse-T800mA, 250V
⚠ F701L,R	2727335	Fuse-F2.5A, 250V
⚠ F801	2727582	Fuse-T4A, 250V (except U.K., Switzerland & Sweden)
⚠ F802	2727582	Fuse-T4A, 250V (except U.K., Switzerland & Sweden)
J151	2688262	Antenna terminal
J401L,R, 602L,R	2677611	4P pin jack
J601L,R, 603L,R	2677611	4P pin jack
J551L,R	2677852	Mic jack
J604	2657891	DIN socket
J651	2657891	DIN socket
J701	2688121	8P push terminal
J702	2677861	Headphone jack
CV101—103,151,152 CT101—103	0282104	Variable capacitor
⚠ S001	2638721	Power switch
S1 — 7	2638586	Push sw. (PHONO, TAPE, Others)
S651L,R	2639441	Push sw. (LOUDNESS)
S701L,R	2639451	Push sw. (SPEAKERS)
X501	2788461	Crystal oscillator
		(HA-J2)
	3246982	Front panel ass'y
	3290231	Knob ass'y
	3290261	Knob ass'y
	3941651	Push button
	3941631	Push button
	4416032	Cover (except U.K.)
	4416033	Cover (for U.K.)
⚠ T001	2219921	Power transformer
	3941791	LED cover
	3248012	Display metal
	3941641	Push knob shaft
	4745371	Felt leg
⚠	3913003	Bushing (for power supply cord)
⚠	2749582	Power supply cord (for U.K.)
⚠	2748752	Power supply cord (except U.K.)
	4567421	3Ø × 6DT bind screw (Silver)
	4567451	3Ø × 6DT bind screw (Silver)
	4567432	3Ø × 8DT bind screw (Black)
	4784106	3Ø × 10 bind tapping screw (Black)
	4567416	3Ø × 16 DT bind screw
	4786731	3Ø × 5 tapping screw
	3362201	Spring (for power sw.)
		MISCELLANEOUS (FT-J2)
	3246994	Front panel ass'y
	3290232	Knob ass'y (TUNING)
	3290261	Knob ass'y (MIC VOLUME)
	3941641	Push button (PHONO, TAPE, Others)
	4416036	Cover
	3941882	Pully
	3362161	Spring
	4745371	Felt leg

SYMBOL No.	STOCK No.	DESCRIPTION
	3183862	Scale board
	3941712	Display window
	4428672	Slider
	3941951	Dial pointer case
	3356362	Flywheel ass'y
	3924472	Plastic rivet
	4784106	3Ø × 6DT bind screw (Black)
	4574603	3Ø × 10 bind tapping screw
	4567451	3Ø × 6DT bind screw (Silver)
	4567413	3Ø × 10DT bind screw
	4567411	3Ø × 6DT bind screw (Yellow)
		for ACCESSORIES
	2757412	LOOP antenna
	2718542	FM antenna
	2717524	DIN cord

KEY TO ILLUSTRATIONS • BEZEICHNUNG DER BEDIENUNGSELEMENTE • GUIDE DES ILLUSTRATIONS

STEREO AMPLIFIER (HA-J2)
STEREO VERSTÄRKER (HA-J2)
AMPLIFICATEUR STÉRÉO (HA-J2)



Stereo Amplifier (HA-J2)

① POWER (MAINS) SWITCH
② POWER (MAINS) INDICATOR
③ POWER LEVEL INDICATOR (LEFT)
④ POWER LEVEL INDICATOR (RIGHT)
⑤ VOLUME CONTROL
⑥ LOUDNESS SWITCH
⑦ BALANCE CONTROL
⑧ TREBLE CONTROL
⑨ BASS CONTROL
⑩ SPEAKER SWITCH (A/B)
⑪ HEADPHONE SOCKET
⑫ SPEAKER TERMINALS (A)
⑬ SPEAKER TERMINALS (B)
⑭ TUNER INPUT SOCKET
⑮ VOLTAGE SELECTOR
(for W. Germany only)

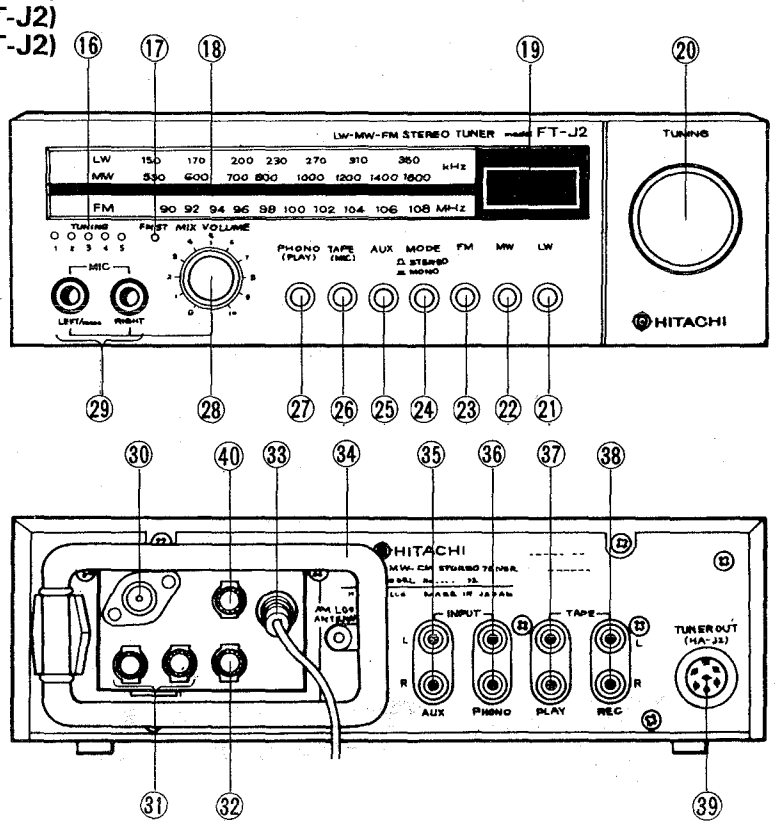
Stereo-Verstärker (HA-J2)

① NETZSCHALTER
② EINSCHALTANZEIGE
③ LEISTUNGSPEGELANZEIGE (LINKS)
④ LEISTUNGSPEGELANZEIGE (RECHTS)
⑤ LAUTSTÄRKEREGLER
⑥ SCHALTER FÜR GEHÖRRICHTIGE LAUTSTÄRKE
⑦ BALANCEREGLER
⑧ HÖHENREGLER
⑨ TIEFENREGLER
⑩ LAUTSPRECHERSCHALTER (A/B)
⑪ KOPFHÖRERBUCHSE
⑫ LAUTSPRECHERKLEMMEN (A)
⑬ LAUTSPRECHERKLEMMEN (B)
⑭ TUNEREINGANGSBUCHSE
⑮ NETZSPANNUNGSWÄHLER
(nur für die BDR)

Amplificateur stéréo (HA-J2)

① INTERRUPTEUR D'ALIMENTATION (MAINS)
② TÉMOIN D'ALIMENTATION (MAINS)
③ INDICATEUR DU NIVEAU DE PUISSANCE (GAUCHE)
④ INDICATEUR DU NIVEAU DE PUISSANCE (DROIT)
⑤ COMMANDE DU VOLUME
⑥ COMMUTATEUR DE CORRECTION PHYSIOLOGIQUE (LOUDNESS)
⑦ COMMANDE D'ÉQUILIBRAGE (BALANCE)
⑧ COMMANDE DES TONALITÉS AIGUËS (TREBLE)
⑨ COMMANDE DES TONALITÉS GRAVES (BASS)
⑩ COMMUTATEUR D'ENCEINTES (A/B)
⑪ PRISE DE CASQUE D'ÉCOUTE (HEADPHONE)
⑫ BORNES D'ENCEINTES (A)
⑬ BORNES D'ENCEINTES (B)
⑭ BORNES D'ENTRÉE DE TUNER
⑮ SÉLECTEUR DE TENSION
(Réservé à l'Allemagne fédérale)

STEREO TUNER (FT-J2)
STEREO TUNER (FT-J2)
TUNER STÉRÉO (FT-J2)



Stereo Tuner (FT-J2)

⑯ TUNING INDICATOR
⑰ FM STEREO INDICATOR
⑱ DIAL POINTOR
⑲ TUNING FREQUENCY INDICATOR
⑳ TUNING CONTROL
㉑ LW BAND SWITCH
㉒ MW BAND SWITCH
㉓ FM BAND SWITCH
㉔ MODE SWITCH
㉕ AUX SWITCH
㉖ TAPE SWITCH
㉗ PHONO SWITCH
㉘ MIC MIXING VOLUME CONTROL
㉙ MIC SOCKETS (LEFT, RIGHT)
㉚ FM ANTENNA (AERIAL) TERMINAL (75 ohms)
㉛ FM ANTENNA (AERIAL) TERMINALS (300 ohms)
㉜ AM ANTENNA (AERIAL) TERMINAL
㉝ AM LOOP ANTENNA SOCKET
㉞ AM LOOP ANTENNA
㉟ AUX SOCKETS
㊱ PHONO SOCKETS
㊲ TAPE PLAY SOCKETS
㊳ TAPE REC SOCKETS
㊴ TUNER OUTPUT SOCKET
㊵ GROUND TERMINAL

Stereo-Tuner (FT-J2)

⑯ ABSTIMMANZEIGE
⑰ UKW-STEREOANZEIGE
⑱ SKALENZEIGER
⑲ ABSTIMMFREQUENZANZEIGE
⑳ ABSTIMMKNOPF
㉑ LW-BEREICHSSCHALTER
㉒ MW-BEREICHSSCHALTER
㉓ UKW-BEREICHSSCHALTER
㉔ BETRIEBSARTENSCHALTER
㉕ RESERVEEINGANGSSCHALTER
㉖ BANDSCHALTER
㉗ PLATTENSPIELERSCHALTER
㉘ MIKROFONMISCHLAUTSTÄRKEREGLER
㉙ MIKROFONBUCHSEN (LINKS, RECHTS)
㉚ UKW-ANTENNENKLEMME (75 Ohm)
㉛ UKW-ANTENNENKLEMMEN (300 Ohm)
㉜ AM-ANTENNENKLEMME
㉝ AM-RAHMENANTENNENBUCHSE
㉞ AM-RAHMENANTENNE
㉟ RESERVEEINGANGSBUCHSEN
㊱ PLATTENSPIELER-EINGANGSBUCHSEN
㊲ BANDWIEDERGABEBUCHSEN
㊳ BANDAUFNAHMEBUCHSEN
㊴ TUNER-AUSGANGSBUCHSE
㊵ ERDKLEMME

Tuner stéréo (FT-J2)

⑯ TÉMOIN D'ACCORD
⑰ TÉMOIN FM STEREO
⑱ AIGUILLE DE CADRAN D'ACCORD
⑲ TÉMOIN DE FRÉQUENCE D'ACCORD
⑳ COMMANDE D'ACCORD
㉑ COMMUTATEUR DE GAMME GO (LW)
㉒ COMMUTATEUR DE GAMME PO (MW)
㉓ COMMUTATEUR DE GAMME FM
㉔ COMMUTATEUR DE MODE
㉕ COMMUTATEUR D'ÉQUIPEMENT AUXILIAIRE
㉖ COMMUTATEUR DE BANDE (TAPE)
㉗ COMMUTATEUR DE TOURNE-DISQUE
㉘ COMMANDE DE VOLUME DE MIXAGE AVEC MICROPHONE
㉙ PRISES DE MICROPHONE (GAUCHE, DROIT)
㉚ BORNE D'ANTENNE FM (75 ohms)
㉛ BORNES D'ANTENNE FM (300 ohms)
㉜ BORNE D'ANTENNE AM
㉝ PRISE D'ANTENNE CADRE AM
㉞ ANTENNE CADRE AM
㉟ PRISES POUR ÉQUIPEMENT AUXILIAIRE
㊱ PRISES DE TOURNE-DISQUE
㊲ PRISES DE LECTURE DE BANDE
㊳ PRISES D'ENREGISTREMENT DE BANDE
㊴ PRISE DE SORTIE DE TUNER
㊵ BORNE DE TERRE